LMP

Logistics Modernization Program

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Education – Phase 2

Forecasting and Planning Course

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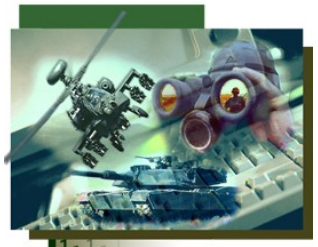

Education Phase 1

- The Logistics Modernization Program (LMP) will modernize the Army's logistics business processes and practices.
- LMP will provide agile, reliable, and responsive services by leveraging best business practices and technology.
- Enterprise Resource Planning (ERP) integrates basic business processes - from taking orders and processing requisitions, to monitoring inventory levels, to financial accounting, to human resource management.
- SAP R/3 is the enabling tool that provides a set of business application software modules.
- SAP R/3, other SAP applications such as Business Warehouse (BW), Advanced Planner and Optimizer (APO), and Strategic Enterprise Management (SEM), along with merged industry solutions for the

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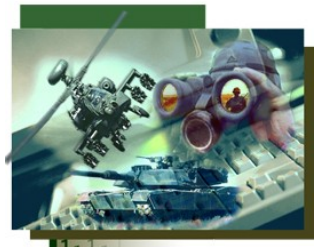

Education Phase 2 – Part of Multiple Levels

PREVIOUS TODAY

- **Level 1 [Phase 1] Education - "Why" LMP**
  [Phase 2] Education - "What" are the LMP components

- **Level 2 Teaches basic SAP navigation - "How" to move within the system**

- **Level 3 Provides additional detailed training on SAP concepts and terms - How" functionality and modules relate within the system**

- **Level 4 More detailed training regarding SAP sub-modules, process details, work flows, case studies by activity groups, day in the life exercises - "How" to do transactions within the system**

- **Level 5 Workshops that will be held just before go-live to**

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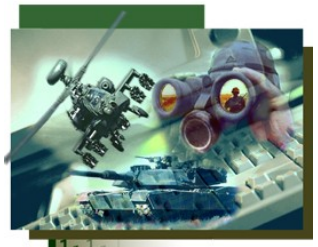

LMP Forecasting and Planning

One of the following topics:

1. **Forecasting and Planning**
2. Remanufacturing
3. Manufacturing
4. Inventory Management and Purchasing
5. Budget and Finance

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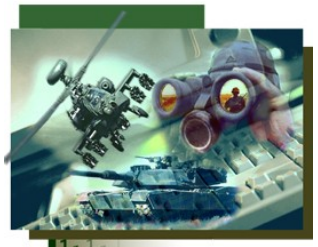

Course Objectives

- ✓ Provide a knowledge of the fundamentals of forecasting, planning, and the LMP solution.
- ✓ Prepare for the transition from awareness to preparation, concepts and terms, and detailed training.
- ✓ Provide a basis for future SAP training.
- ✓ Begin to provide a level of comfort with LMP solution.

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The subject matter presented in this course makes extensive use of material from the *APICS body of knowledge*. In particular, knowledge required to obtain professional certification in production and inventory management. It also consists of *SAP material* used in the training and educating of its existing or potential clients. In addition, it contains *material generated by the LMP Team*.

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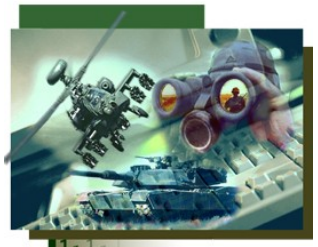

Course Outline

1. The SAP/LMP Solution
2. Some Things You Need To Know Before We Begin
3. Forecasting/Demand Planning
4. Supply Planning
5. Supply Execution

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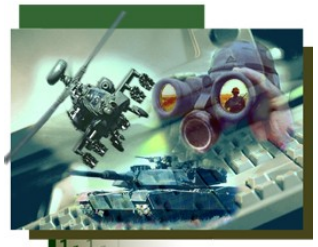

The SAP/LMP Solution

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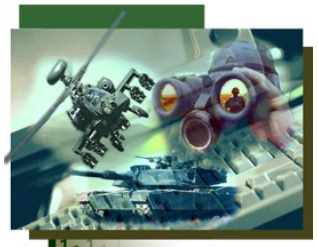

RDES vs. LMP Concepts

- RDES
  - Group of ADP processes providing standard, automated capability for logistics management of secondary items
  - Automatically calculate and review supply posture
  - Produce LDV studies and IMP for medium and high dollar items
  - Automatically obtain all required data to compute forecasted requirements
  - Relieve the inventory manager from time-consuming tasks of manual calculations to focus on logistics management (Batch Process/Monthly Study)

- LMP
  - Group of ADP processes providing standard, automated capability for logistics management of all items
  - Automatically calculate and review supply posture
  - Produce stock requirements and supply actions for all items
  - Automatically obtain all required data to compute forecasted requirements
  - Relieve the inventory manager from time-consuming tasks of manual calculations to focus on logistics management with real-time data (Weekly Runs/Daily Alerts)

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RDES vs. LMP Capabilities

- RDES
  - Maximum use of automation and management by exception
  - Access to major files (MMD, DRD, PDF, NSNMDR)
  - Abbreviated SCS method for LDV items and intensive management for MDV and HDV items

- LMP
  - Maximum use of automation and management by exception
  - Access to integrated data (R/3, APO, BW, SEM, + Interfaces)
  - Capability to manage individual items at different levels of intensity based on management emphasis desired

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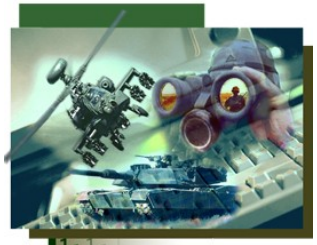

RDES vs. LMP Operation

RDES

- Item to be reviewed selected by parameter

- Supply position determined (balance check of item's assets on hand plus dues-in minus dues-out compared to the reorder warning point or its maximum requirements objective)

- New requirements levels computed with recommended supply actions for out of balance condition: (1)increasing, decreasing, or rescheduling existing procurement; (2)initiating, increasing, or decreasing rebuild/overhaul schedules; (3)disposing or recalling of excess assets; (4)combination of those actions

- Automatic generation of PWDs, suspended PWDs

- List of exception conditions

- Numerous reports produced for logistics management

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- Item to be reviewed selected by parameter

- Supply position determined (projected total requirements minus on-hand plus dues-in)

- New requirements levels computed with recommended supply actions for out of balance condition: (1)increasing, decreasing, or rescheduling existing procurement; (2)initiating, increasing, or decreasing rebuild/overhaul schedules; (3)disposing or recalling of excess assets; (4)combination of those actions

- Automatic generation of purchase order initiation or requisitions awaiting approval

- Alert notification capability

- Numerous reports "seeded" in basic system with ad-hoc reporting capabilities in R/3 and BW

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Budget Stratification vs. LMP

Budget Stratification

- System has the same capabilities as the RDES

- System run in three phases; 1) simulation, 2) pause for review and corrections, 3) rerun

- System uses data from same major and auxiliary files as RDES

- System is run at the end of each quarter

- System capable of special runs at the end of any calendar month

- Numerous reports produced for related budget stratifications

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- Budget related data developed from applying costs to on-hand, on-order, in-process or projected requirements

- System can be run in multiple phases

- Access to integrated data (R/3, APO, BW, SEM, + interfaces)

- System run as required

- System run as required

- Numerous reports “seeded” in basic system with ad-hoc reporting capabilities in R/3 and BW

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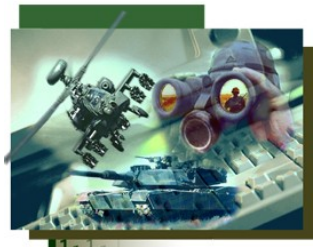

RDES vs. LMP

The “devil” is in the details for supply planning/execution…

Overall Approach	Details
Supply: On-Hand Inventory	Definition of available inventory (status, location, purpose, etc.)
+ (plus)	
Supply: On-Order Inventory	
+ (plus)	
Supply: Work In Process Inventory	
- (minus)	
Demand: Existing Orders/Backlog	
+ (plus)	
Demand: Projected Orders	Forecast Method
= (equals)	
Supply Excess/Shortfall	Order Quantity

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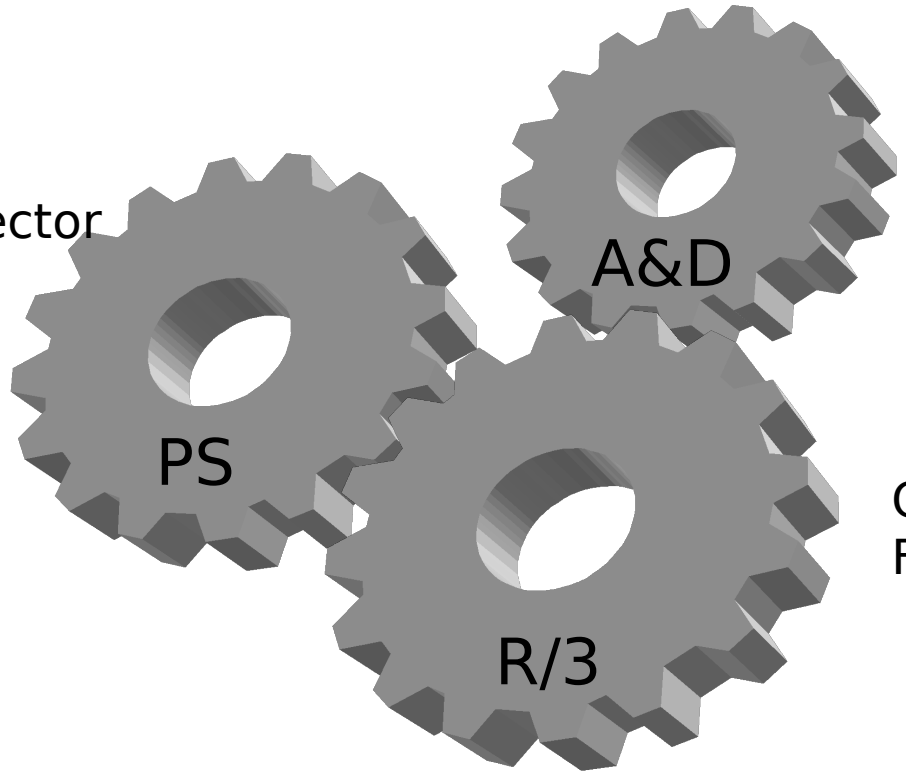
Business Solution



Aerospace and Defense Industry Solution

Public Sector Industry Solution

Core ERP Functionality

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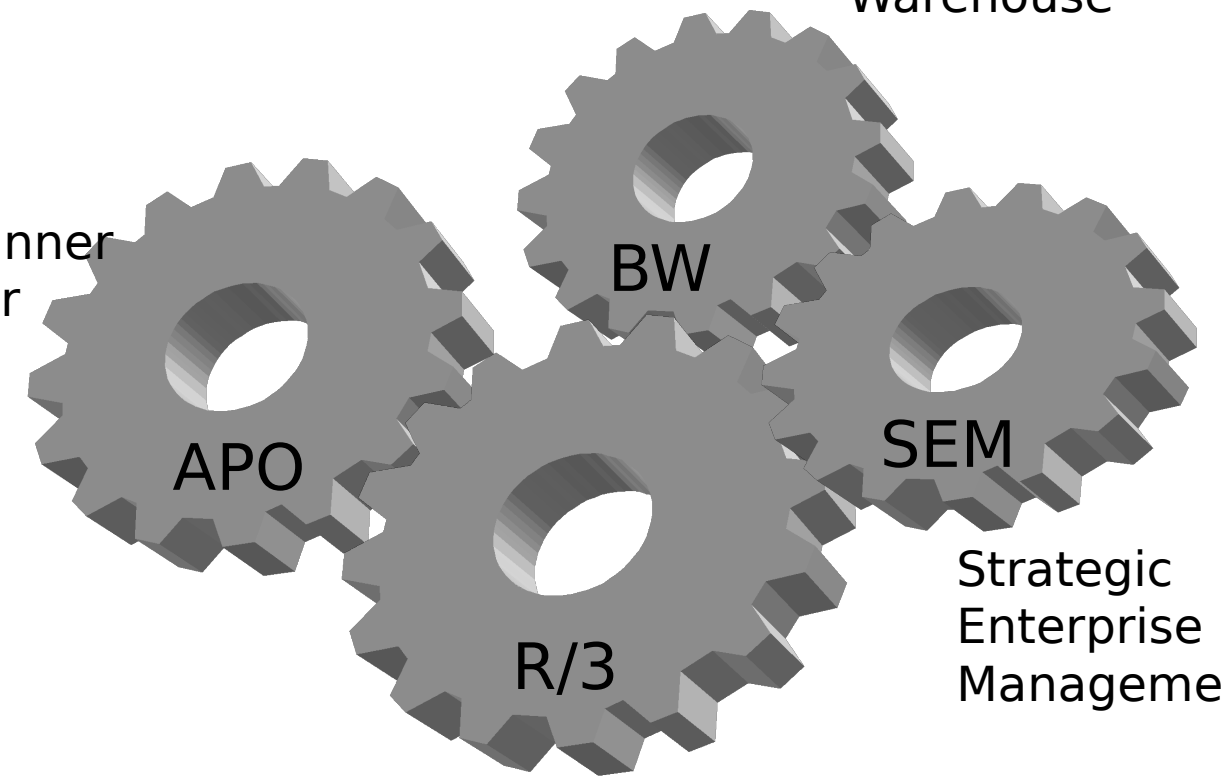
Technical Solution



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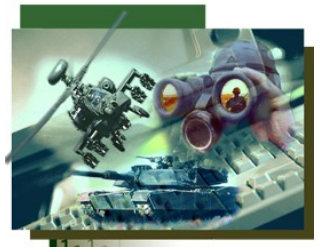
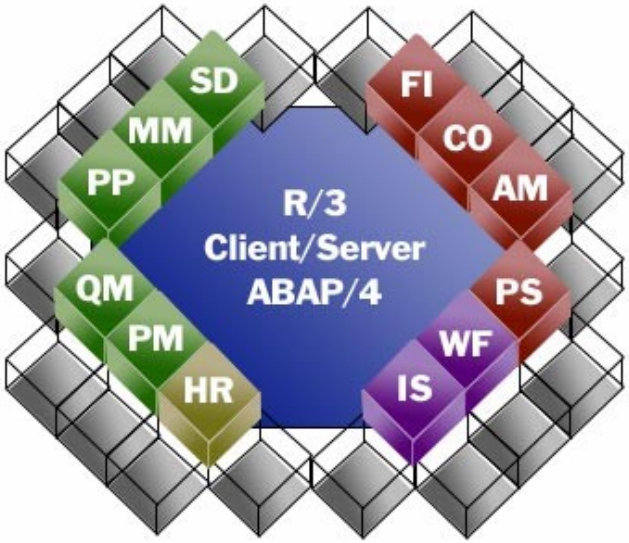


SAP Product(s)

Sales and Distribution (SD)
- Sales order processing
- Pricing
- Shipping
- Billing
- Credit
- Sales Support

Materials Management (MM)
- Purchasing
- Vendor evaluation
- Inventory management
- Invoice verification
- Warehouse management

Production Planning (PP)
- Bill of Materials (BOM)
- CAD interface
- Work centers and routings
- Sales & operations planning
- Master production scheduling
- Materials requirements planning (MRP)
- Configuration management
- Shop floor control
- Capacity planning



Financial (FI)
- General ledger
- Extended G/L
- Accounts payable
- Accounts receivable
- Consolidations
- Report generator
- Cash management and forecasting
- Financial resource management
- Inter-company transactions
- Business area accounting
- Interest calculation

Other Modules
- Asset Management (AM)
- Project System (PS)
- Human Resources (HR)
- Plant Maintenance (PM)
- Industry Solutions (IS)
- Quality Management (QM)
- Workflow (WF)

Other Applications
- Advanced Planner and Optimizer (APO)
- Business Warehouse
- Strategic Enterprise Management

Technical (BC)
- Communications CPI/C
- Relational data base management
- Unix
- ABAP/4, C, C++
- Tuning
- Document management system
- EDI
- Computer center management

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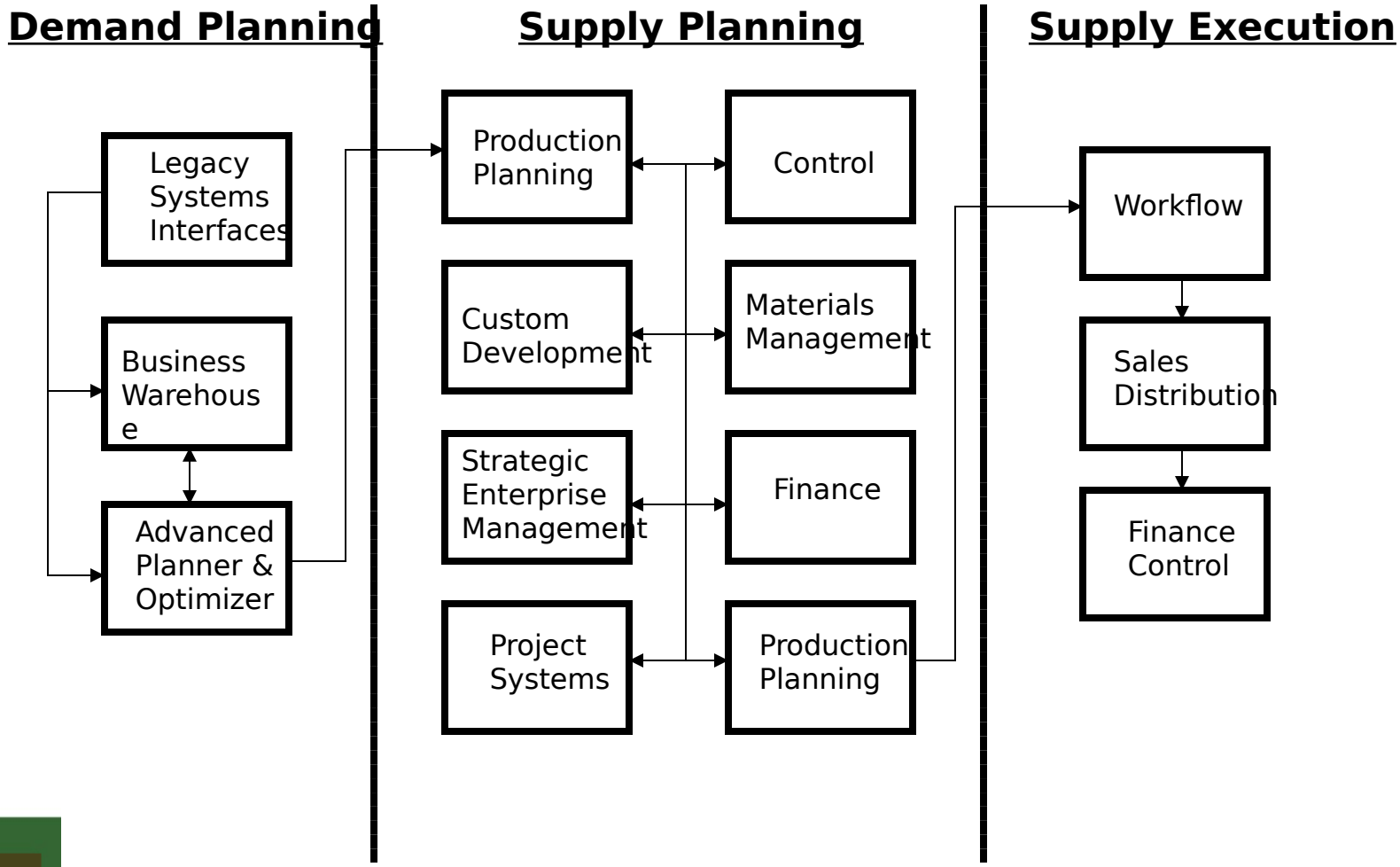
Supply Chain Planning Solution



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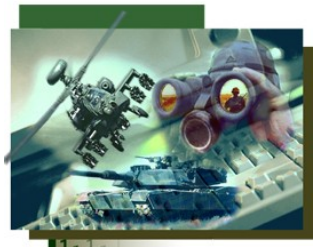

Supply Chain Planning Solution (Cont'd)

SAP Solution – Secondary Item Scenario 701C Engine

Demand Planning

- Legacy Systems Interfaces (Unique Inputs/Computations)
- Business Warehouse (BW – Key Figures Repository)
- Advanced Planner and Optimizer (APO – Demand Planning

Supply Planning

- Production Planning (PP - Demand Management)
- Production Planning (PP – MRP/Long-Term Planning)
- Custom Development (Initial Deployment Solution)
- Strategic Enterprise Management (SEM – Budget Data)
- Control (CO – Cost Data)
- Materials Management (MM – Purchasing – Cost Data)
- Finance (FI – Funds Management – Funding Authorization

Supply Execution

- Project Systems (PS – Budget Year Projects)
- Workflow (WF - Project Negotiation/Acceptance)
- Sales Distribution (SD – Depot Order)
- Finance Control (FI–CO – External Customer Funds)

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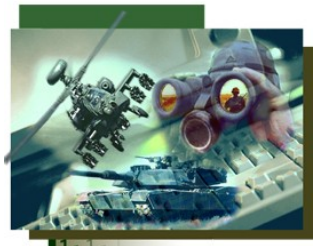

Benefits

- Choice of forecast model aided by automatic model selection, based on past accuracy
- Capability to monitor and incorporate forecast error
- Synchronization of actual material requirements with specific demand by utilizing different bills of material (Full, Planning, Reparable, etc.)
- Capacity planning utilizing actual routings and resources
- Opportunity for holistic planning across or within the AMC organization structure (depots, MSCs, AMC, etc.)
- Opportunity to plan at any item level or aggregate/ disaggregate requirements based on:
  - Major Item
  - Secondary Item
  - Component

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Benefits (Cont'd)

- Opportunity to automate execution of steps within a process (firm or release orders within a specific time horizon, etc.)
- Alert opportunity for automatic notification of undesirable condition (unacceptable on hand inventory balance, capacity constraint, unfavorable delivery time, etc.)
- Capability to link specific requirements to source of demand
- Inventory Planning based on need date rather than target level
- Opportunity for collaborative planning across the supply chain
- Improved timeliness and accuracy of planning by utilizing integrated system with real time/current data (common data repository)

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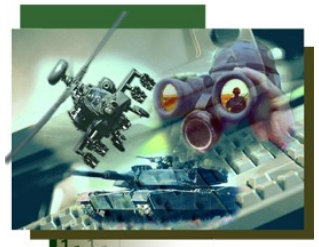
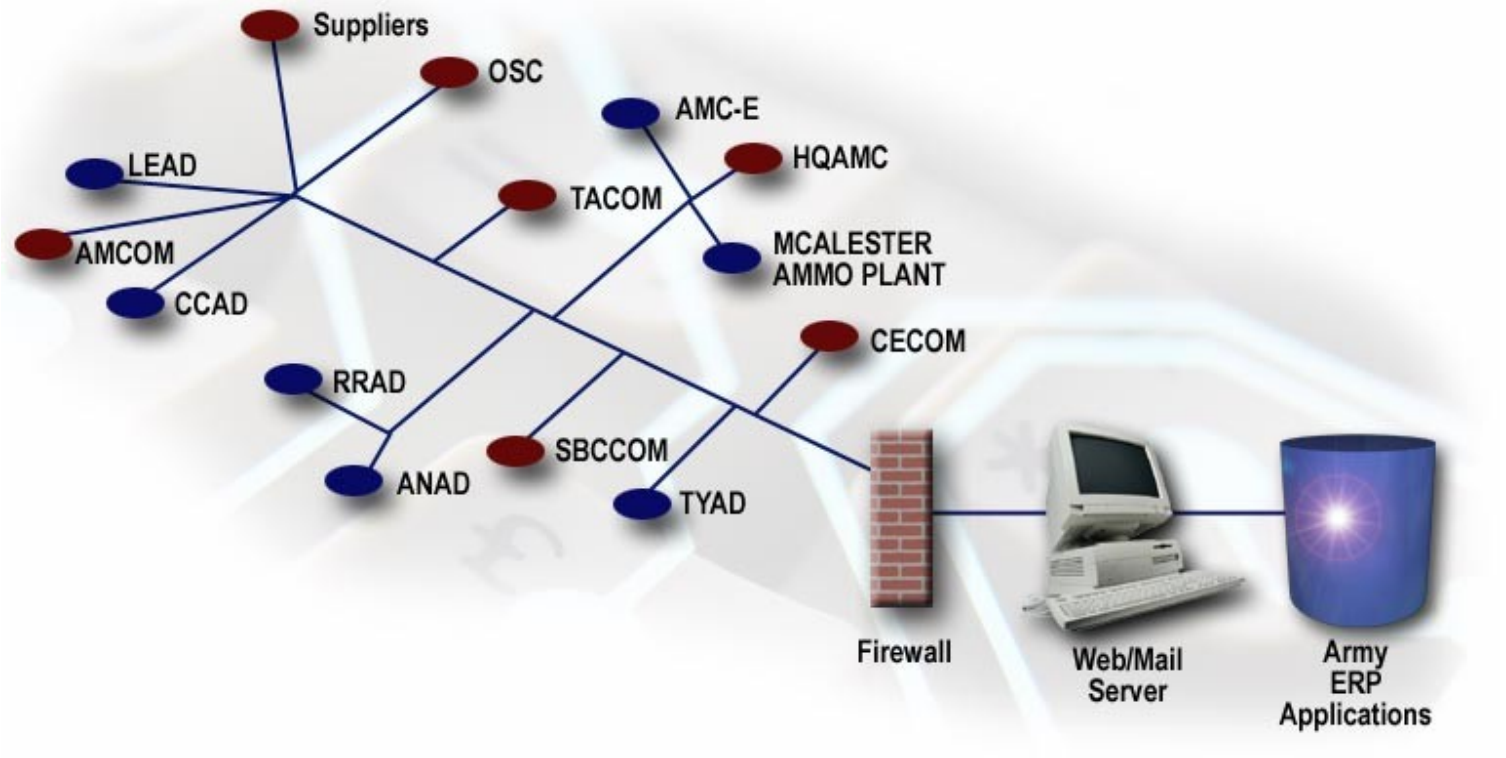


Benefits of Integrated Supply Chain



- Data/information is universally available
- Organization and location becomes transparent
- Inter-linking allows users, at all levels from HQ to work center, to interact with each other to accomplish the AMC mission (collaboration)

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Shift in Measuring Success

The integrated supply chain solution offers the opportunity to shift to more meaningful performance measurements:

Measurements are cross-functional and avoid several conflicts inherent in the traditional view.

From traditional view …

Purchasing	Manufacturing	Distribution	Sales/Marketing
• **Consistent supply** • **Low price** • **Short lead times from vendors, long from manufacturers**	• **Stable schedules** • **Long production runs** • **High utilization**	• **Low inventory** • **Flexible replenishment** • **Consolidated stocking facilities**	• **High inventory** • **Market-based facilities** • **100% on-time performance**

… to supply chain view

- Best mix of facilities, inventory, production, transportation, and supply capabilities to meet customer needs by segment
- Best total cost/service effectiveness trade-offs in decisions

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Some Things You Need To Know Before We Begin

1. Independent vs. Dependent Demand
2. Bills of Material
3. Product Life Cycle and Forecasting
4. Planning Hierarchy
5. Planning Horizons
6. Demand Time Fences
7. Types of Supply Orders

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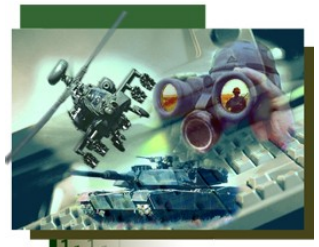

Some Things You Need To Know Before We Begin

1. Independent vs. Dependent Demand

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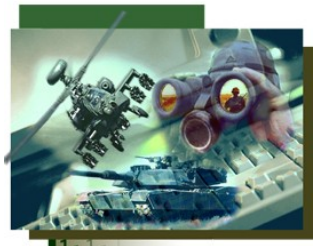

Demand Type

Dependent versus independent

- Only independent demand (demand from an outside source)
  - needs to be forecast (I)
- Dependent demand should never be forecast, it is calculated (D)
- Forecast the independent demand portion for items that have
  - both dependent and independent demand (B)

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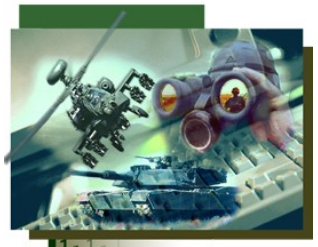

Some Things You Need To Know Before We Begin

2. Bills of Material

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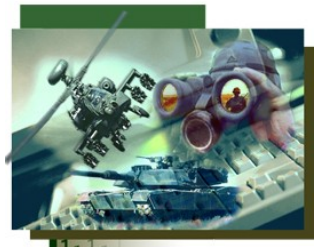
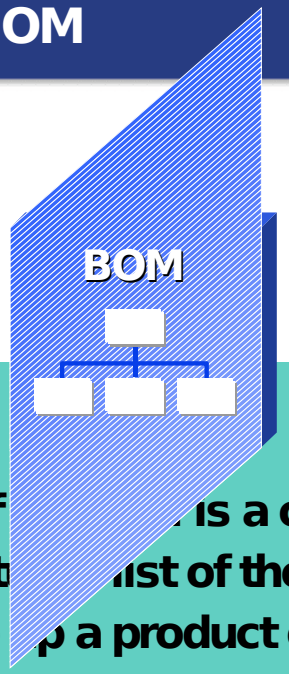


Bill of Material Definition BOM



The bill of [illegible] is a complete, formally struct[illegible]list of the components that make [illegible]p a product or assembly. The list contains the item number of each component, together with the quantity and unit of measure.

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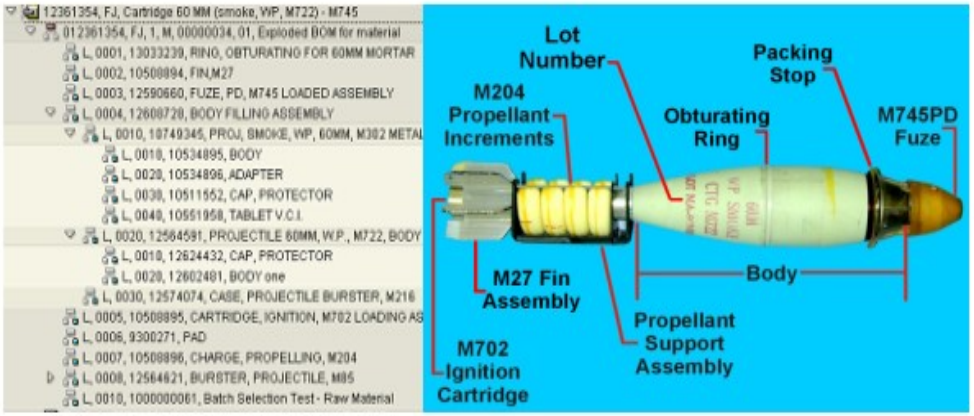
Material BOM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012361354, FJ, 1, M, 00000034, 01, Exploded BOM for material
L, 0001, 13033239, RING, OBTURATING FOR 60MM MORTAR
L, 0002, 10508894, FIN,M27
L, 0003, 12590660, FUZE, PD, M745 LOADED ASSEMBLY
L, 0004, 12608728, BODY FILLING ASSEMBLY
L, 0010, 10749345, PROJ, SMOKE, WP, 60MM, M302 METAL
L, 0010, 10534895, BODY
L, 0020, 10534896, ADAPTER
L, 0030, 10511552, CAP, PROTECTOR
L, 0040, 10551958, TABLET V.C.I.
L, 0020, 12564591, PROJECTILE 60MM, W.P., M722, BODY
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L, 0008, 12564621, BURSTER, PROJECTILE, M85
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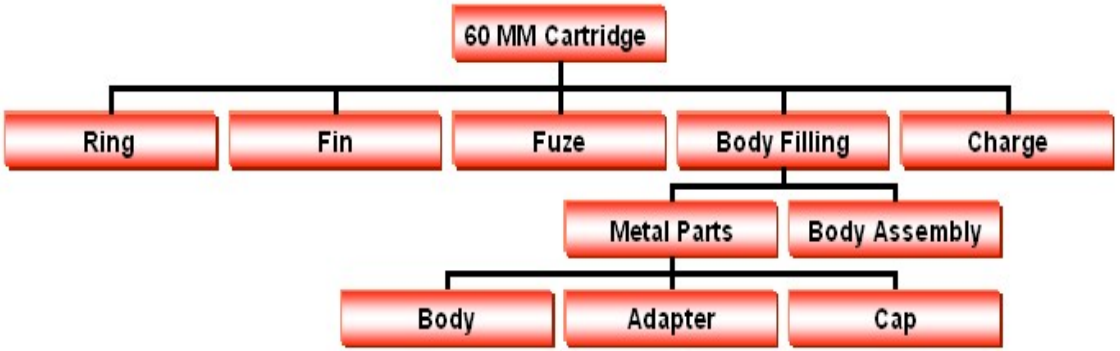
Packing Stop
M204 Propellant Increments
Obturating Ring
M745PD Fuze
M27 Fin Assembly
Body
Propellant Support Assembly
M702 Ignition Cartridge



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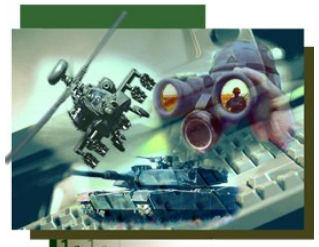
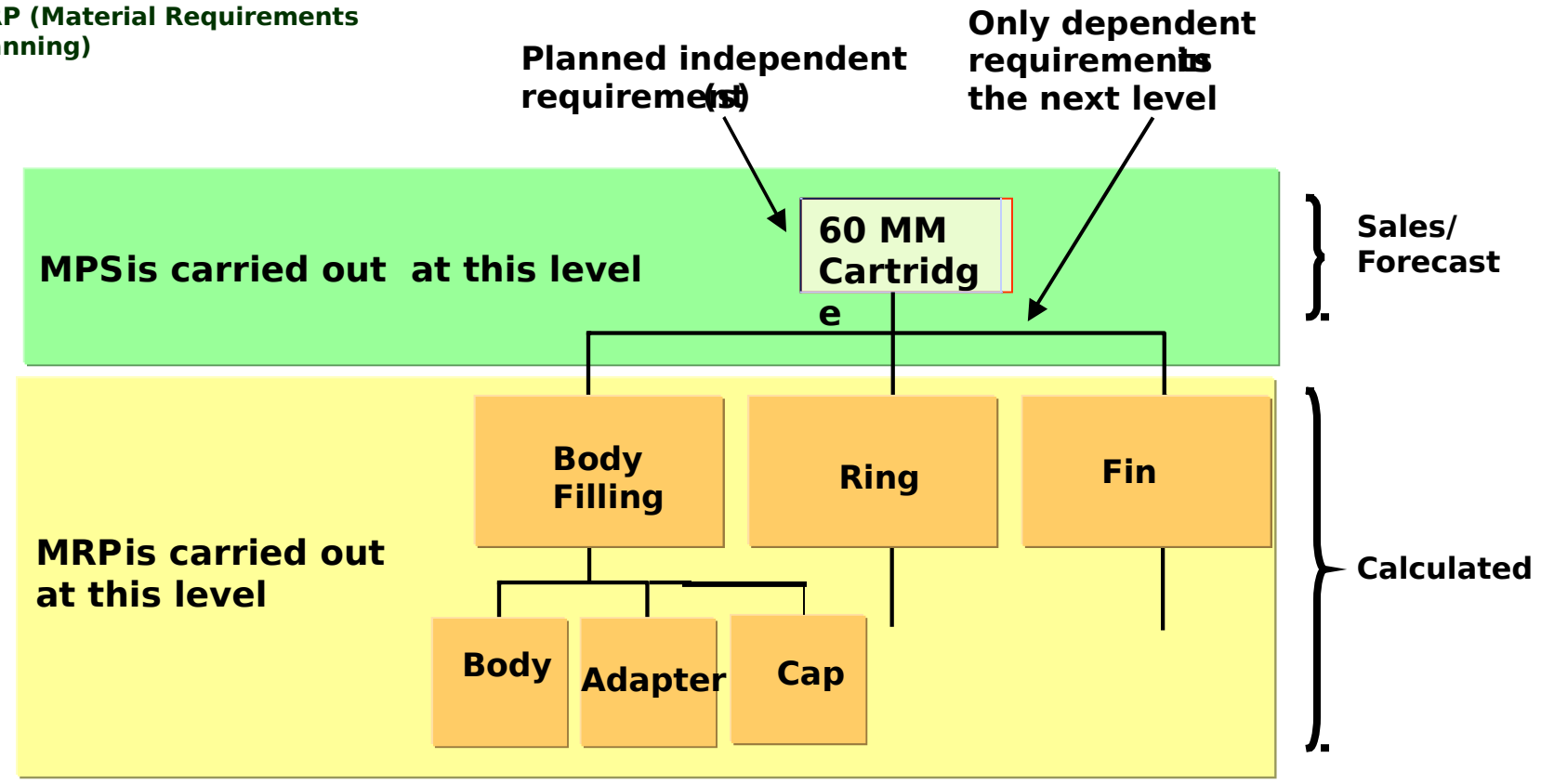


MPS - MRP Comparison

MPS (Master Production Schedule)

MRP (Material Requirements Planning)



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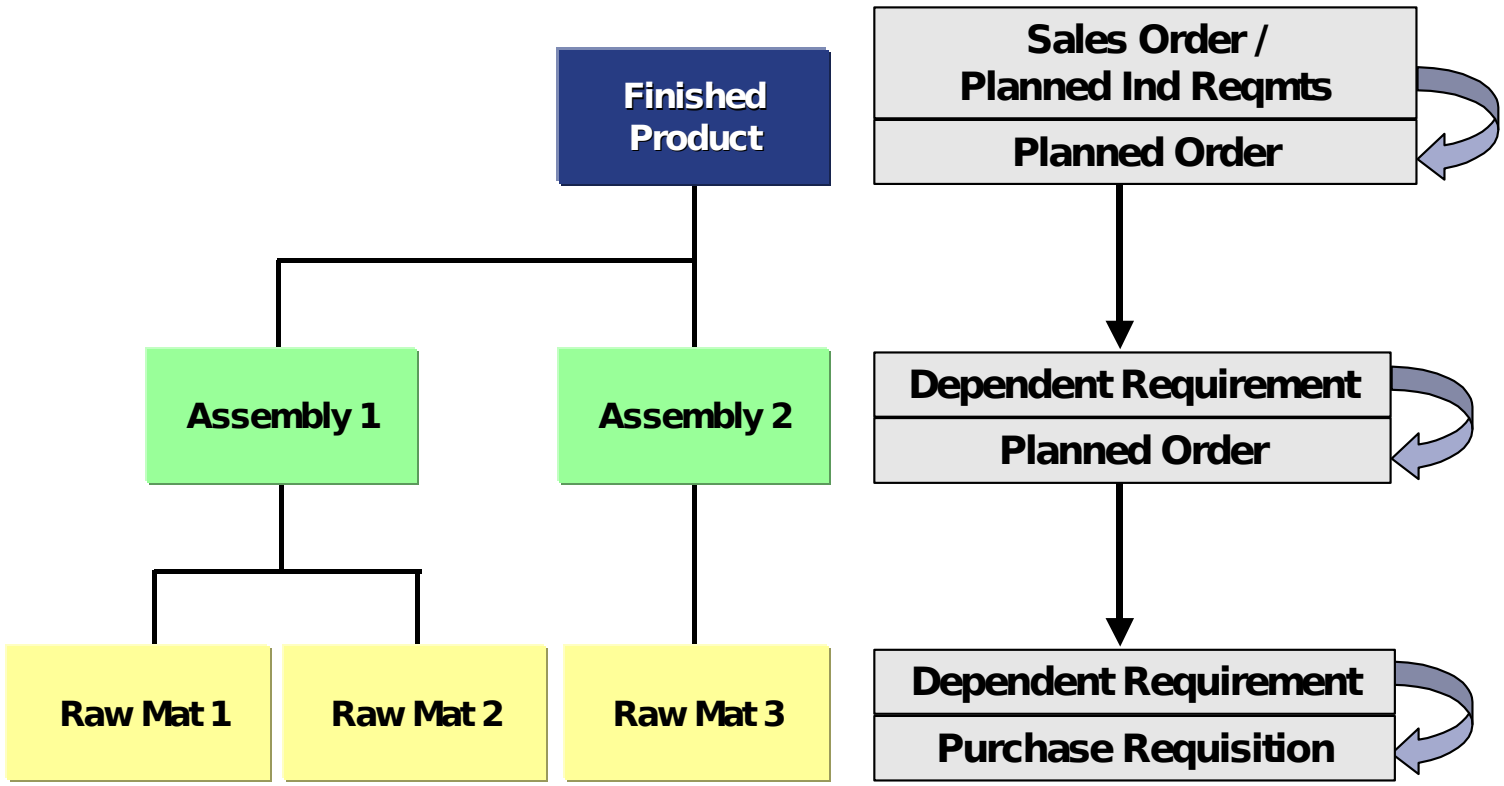
MRP: BOM Explosion



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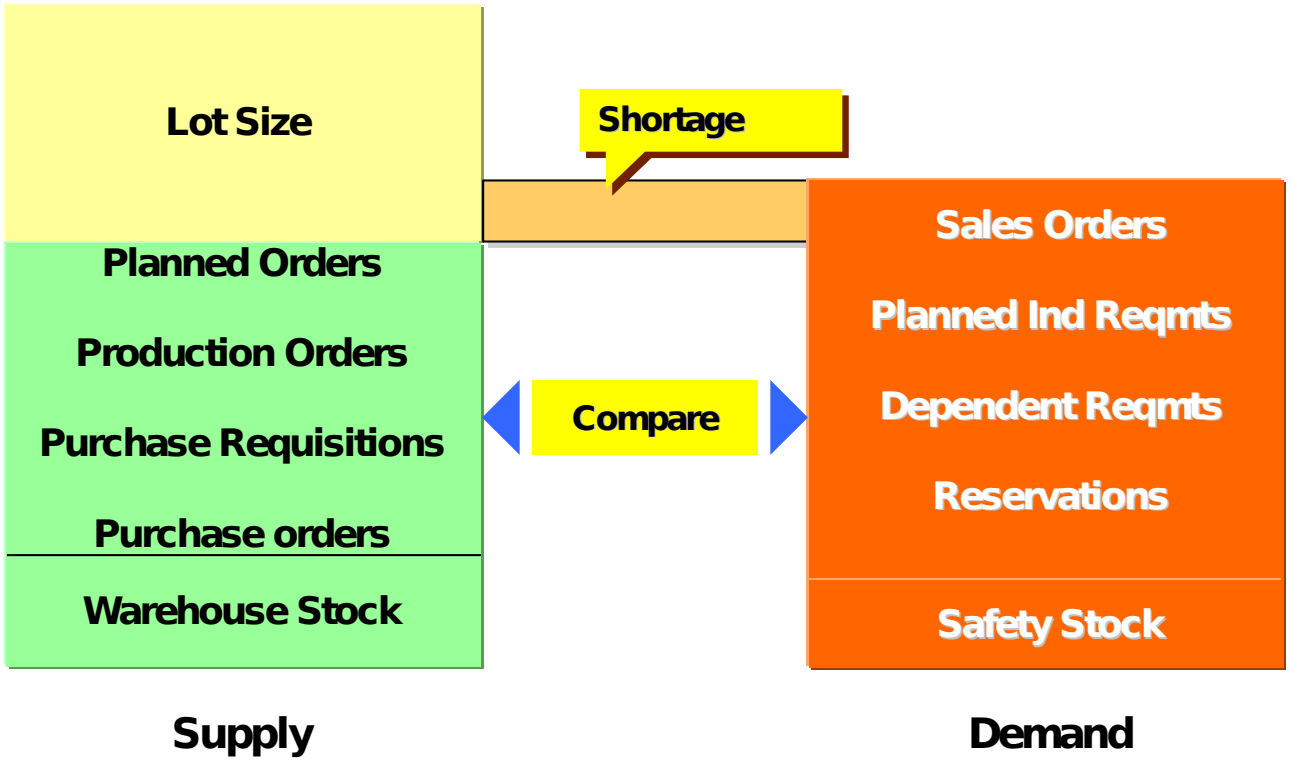
MRP: Net Requirements Calculation



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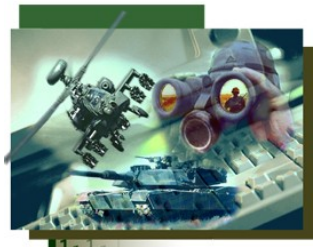

3. Product Life Cycle and Forecasting

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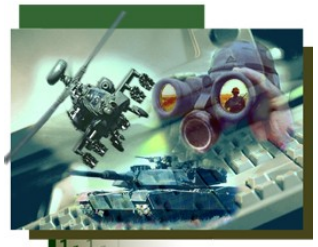

Product Life Cycle and Forecasting

Product life cycle influences forecast model selection and accuracy.

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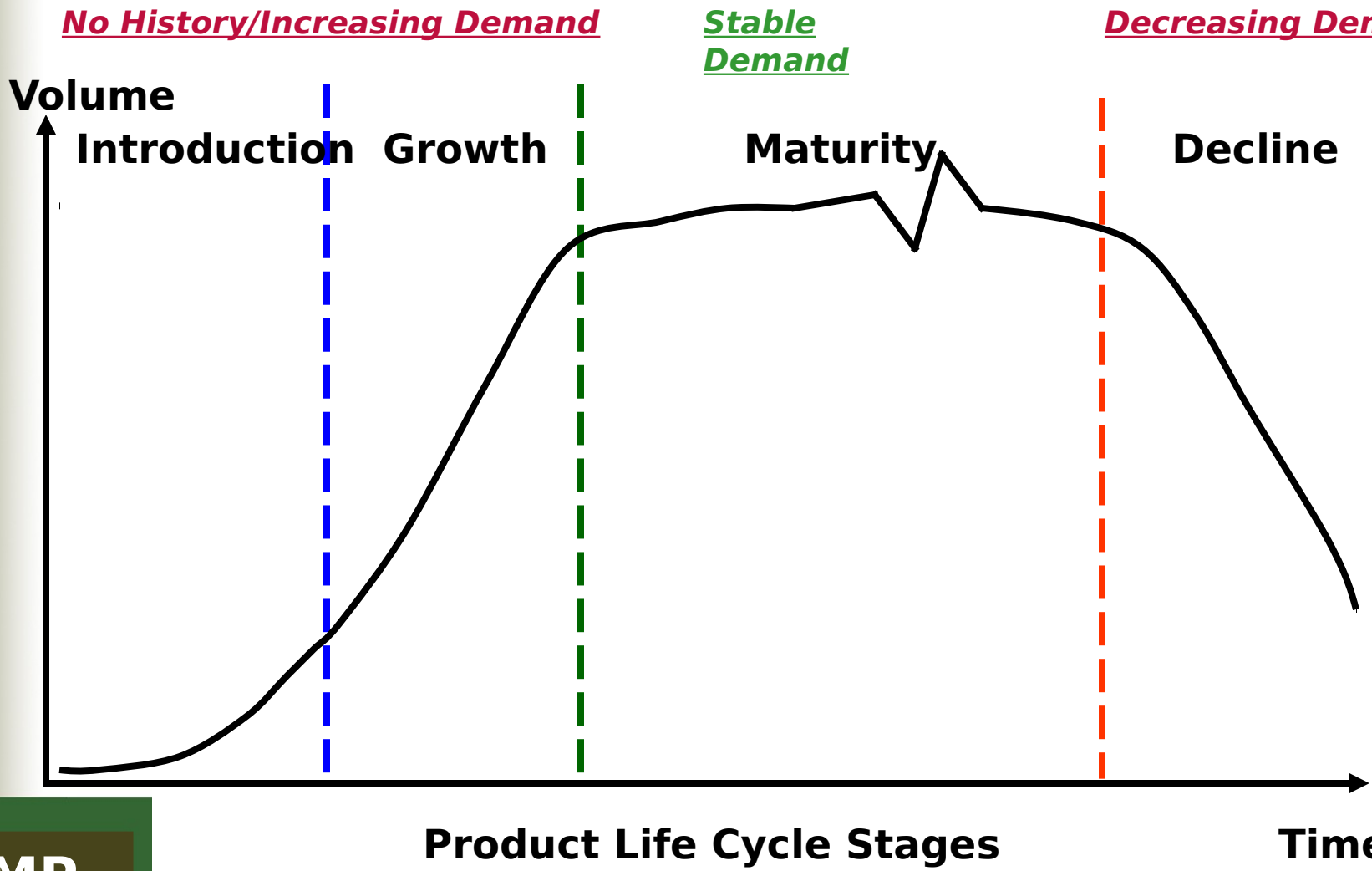
Product Life Cycle



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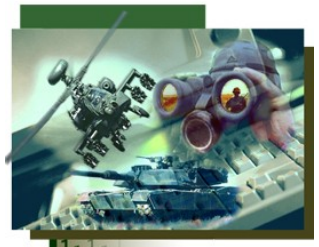

Some Things You Need To Know Before We Begin

4. Planning Hierarchy

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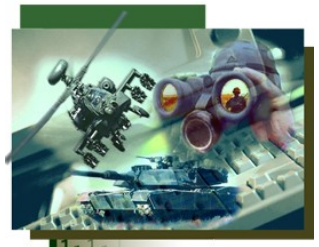
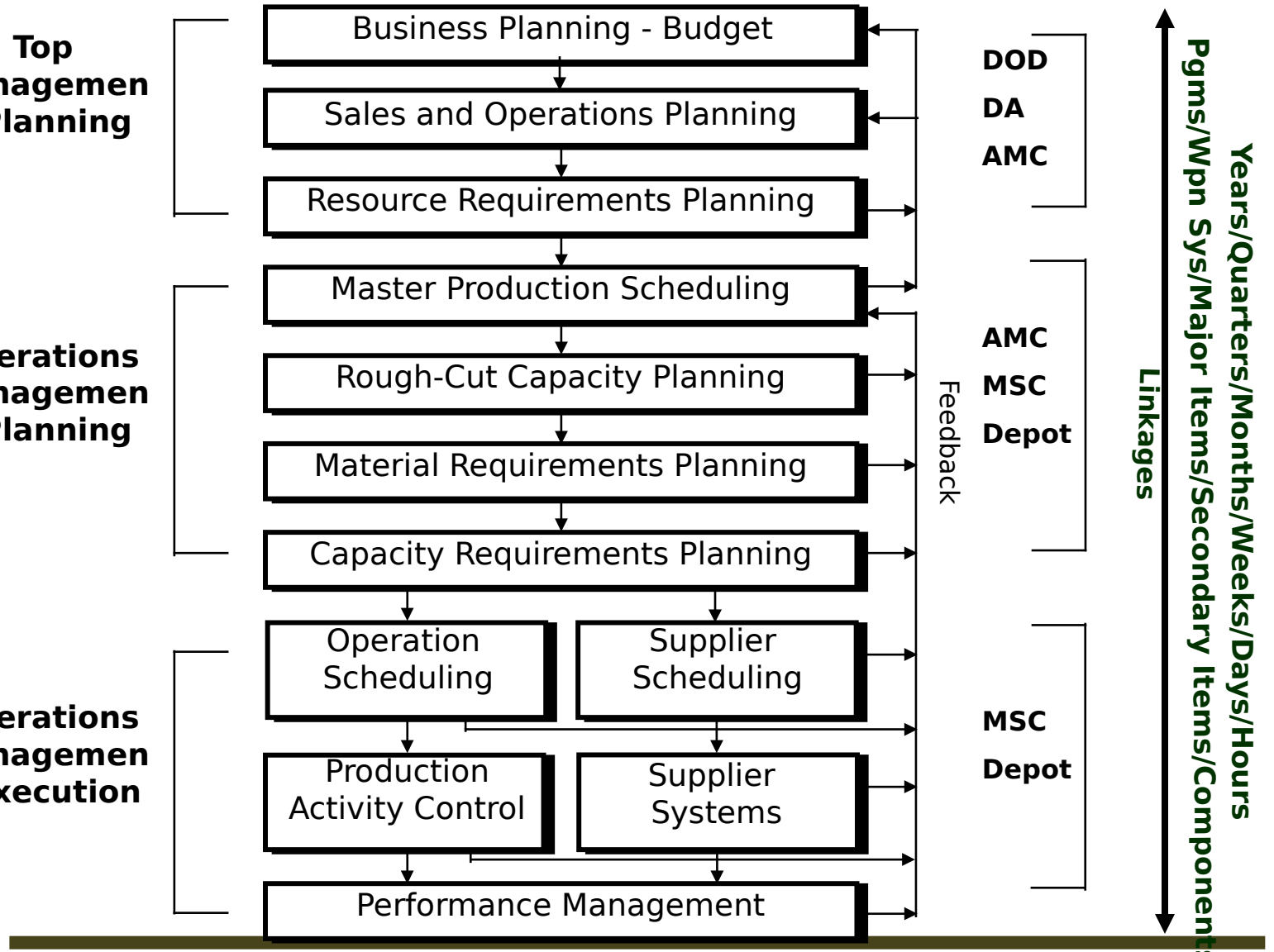


Planning Hierarchy



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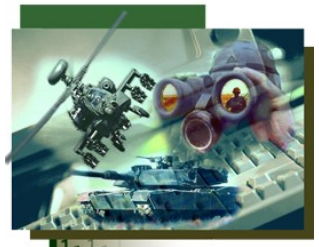

Some Things You Need To Know Before We Begin

5. Planning Horizons

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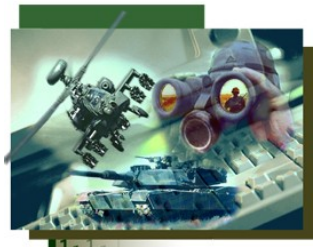

Planning Horizons

The planning horizon is the amount of time the master schedule extends into the future.

This is normally set to cover a minimum of cumulative lead time plus time for capacity changes of primary work centers.

—APICS Dictionary

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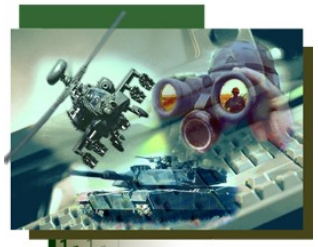
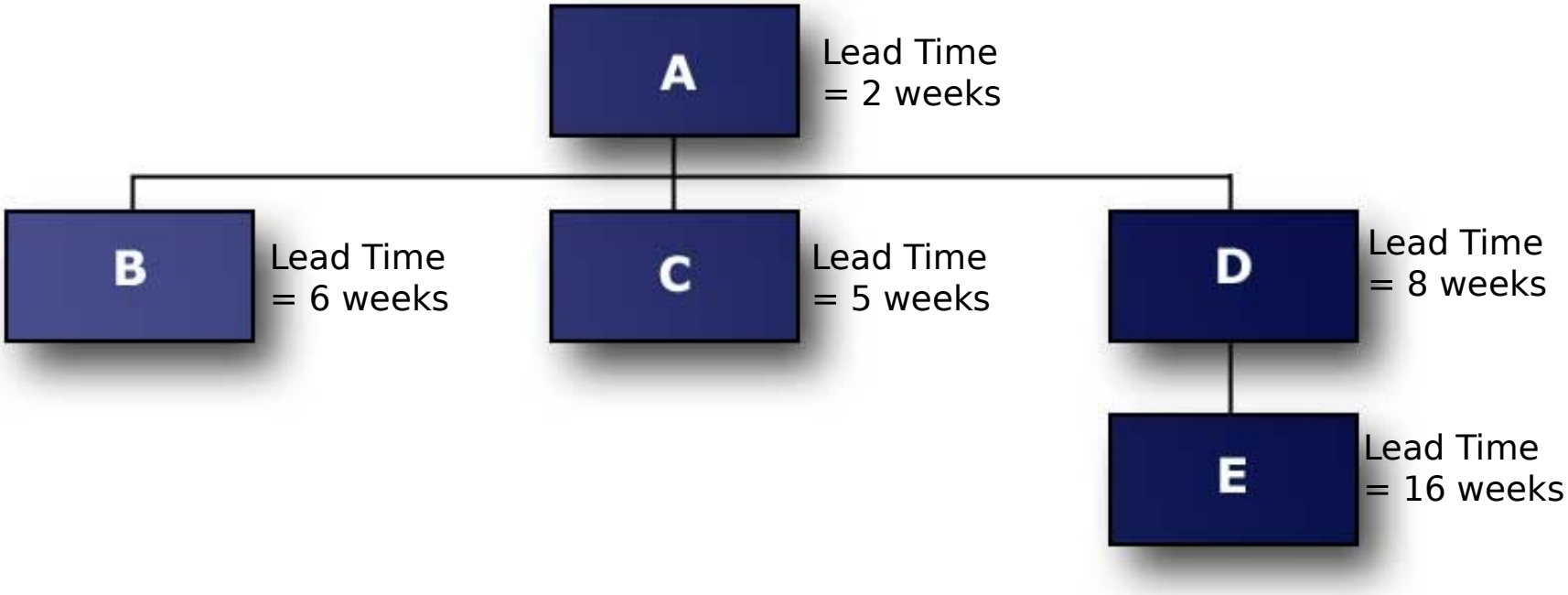


Planning Horizons (Cont'd)



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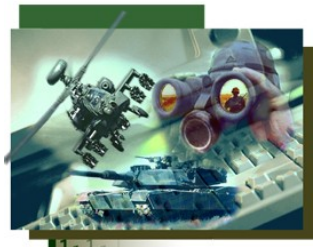

6. Demand Time Fences

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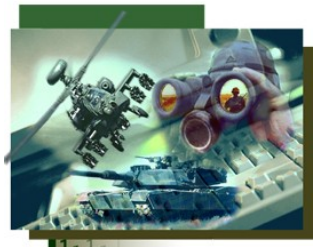
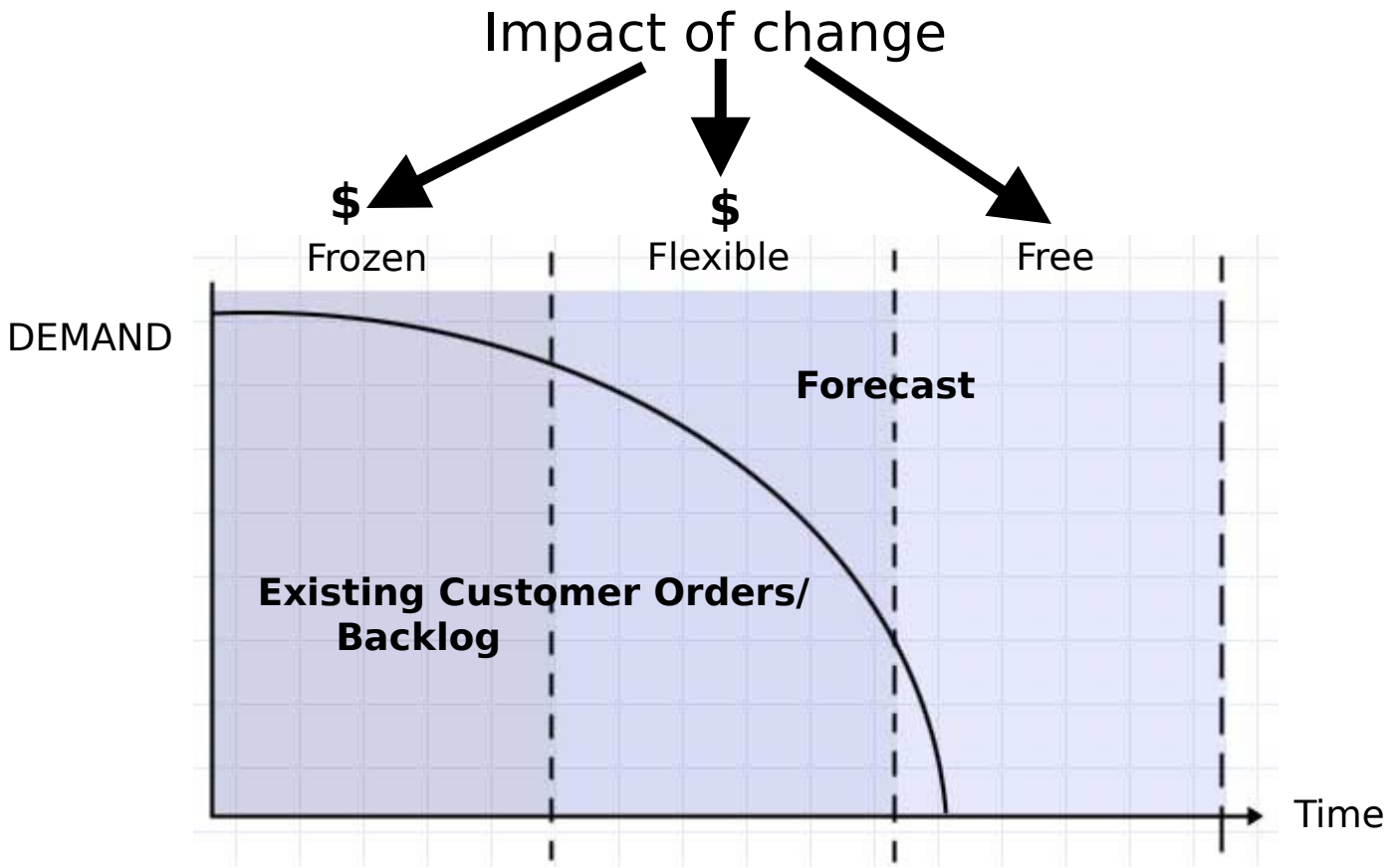


Supply Action Time Zones



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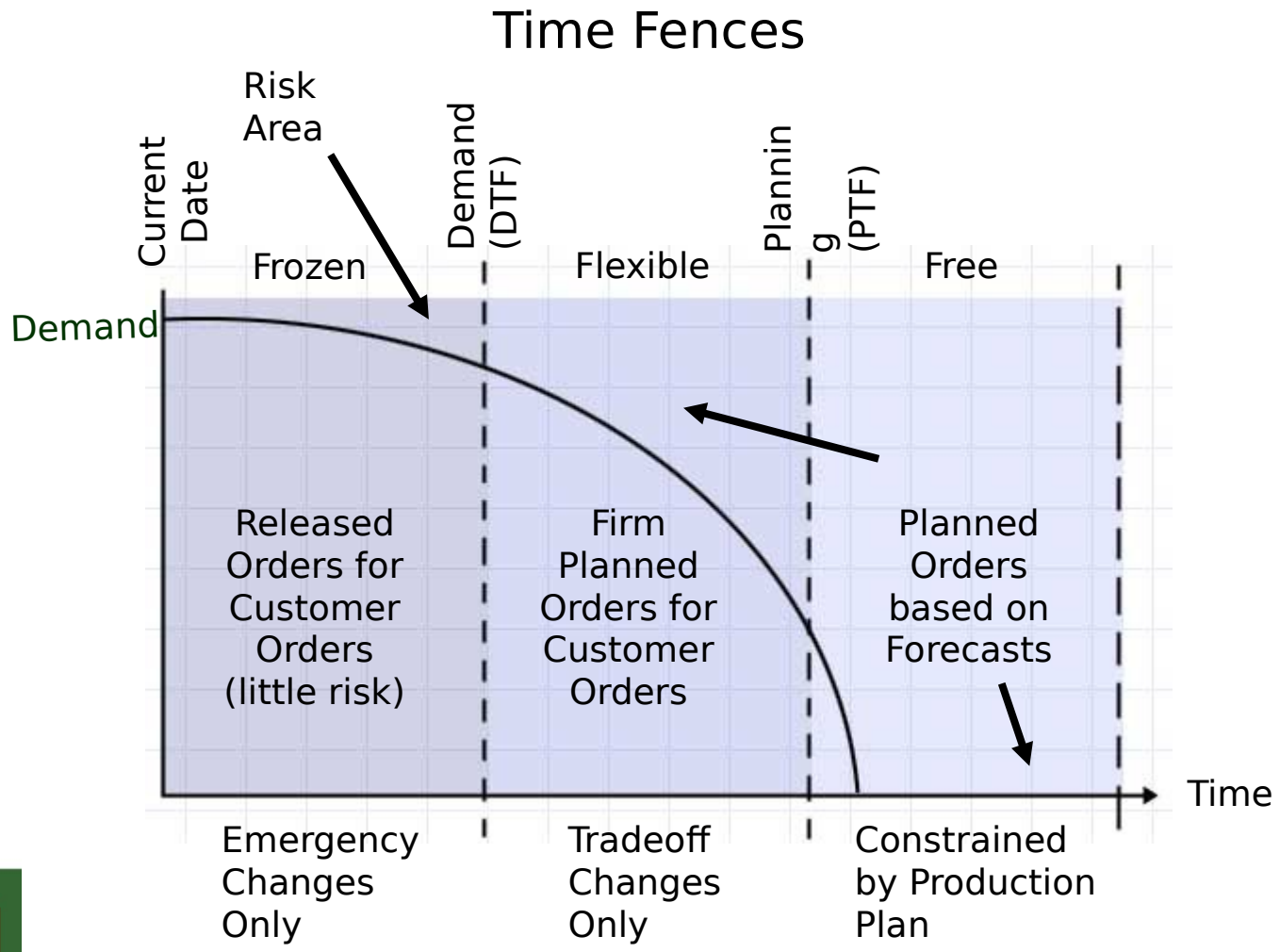
Creating Firm Planned Orders



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Time Fences

Demand Time Fence

Sets the period where changes are seldom permitted

Covers period of actual customer demand

Usually set to cover the *manufacturing/repair time** for a product or the delivery time for a service

** Variable time frame*

Planning Time Fence

Sets the period within which changes must be evaluated

Combination of actual demand plus forecasted demand

Usually set to include *material and components acquisition time**

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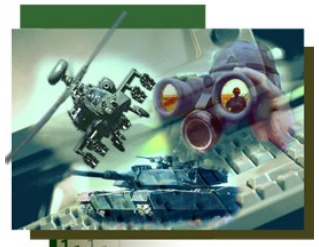

7. Types of Supply Orders

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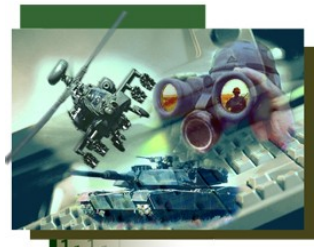
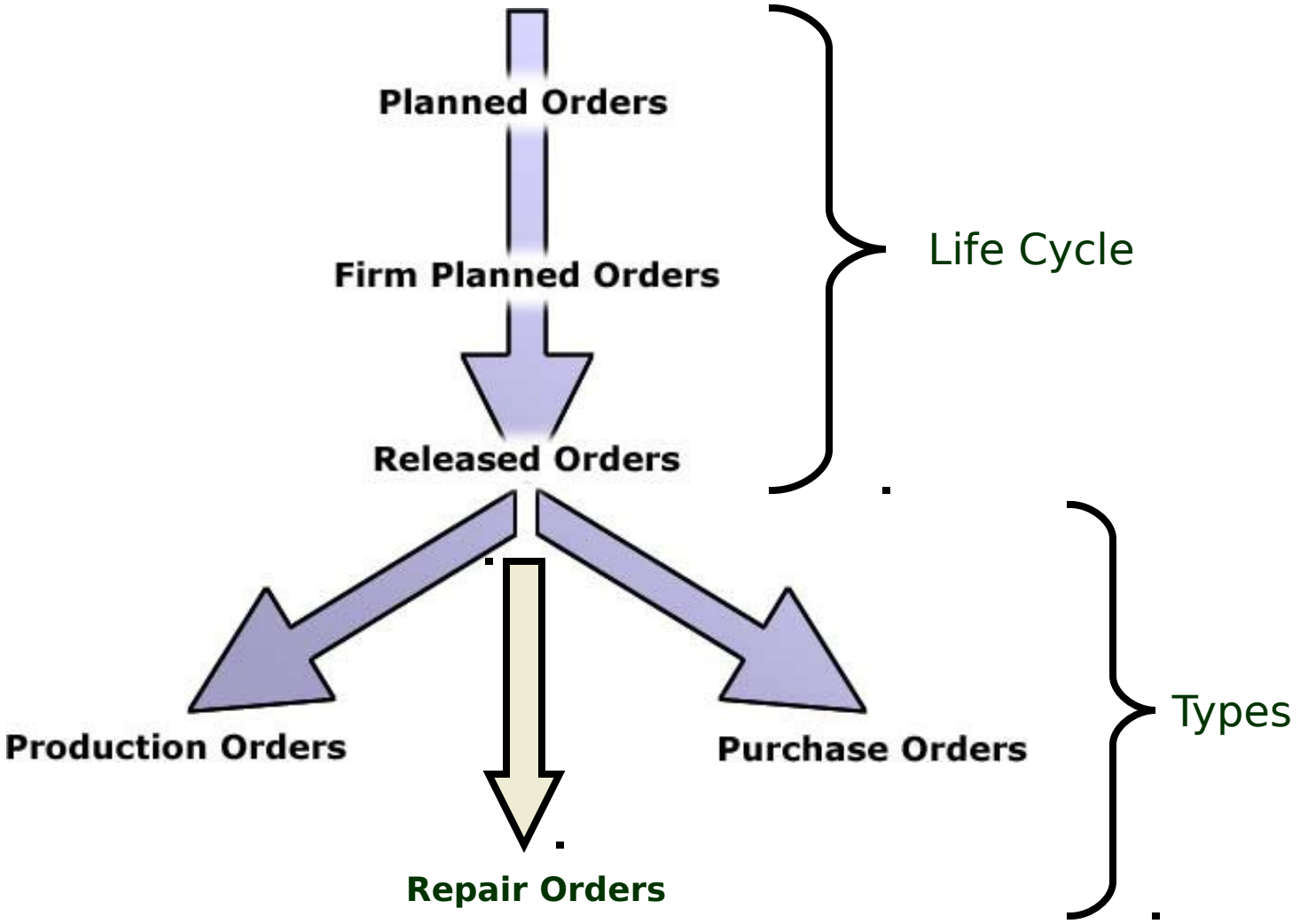


Types of Supply Orders From MRP



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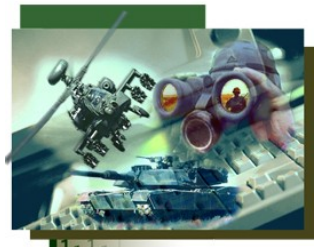

FORECASTING

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Why Forecast?

- To ensure projected and actual demand drives planning activity.
- To determine time buckets for requirements.
- To plan for the future by reducing uncertainty.
- To anticipate and manage change.
- To increase communication and integration of planning teams.

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Principals of Forecasting

Forecasts

- Are rarely 100% accurate over time
- Should include an estimate of error
- Are more accurate for product lines and families than individual items (example: family=automotive vehicles; lines=cars, trucks, SUVs; individual items=Ford Explorer)
- Are more accurate for nearer periods of time (example: this week vs. next month; this month vs. next year)

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General Methods of Forecasting

Techniques

Qualitative—Based on intuitive or judgmental evaluation

- Tend to be subjective
- Used for business planning and forecasting for new products
- Used for medium-term to long-term forecasting

Quantitative—Based on computational projection of a numeric relationship

- Based on historical data usually available in the company
- Assume future will repeat past

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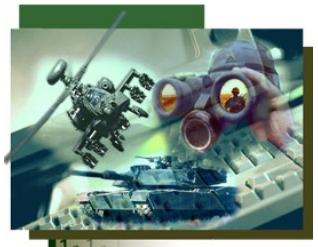

General Methods of Forecasting (Cont'd)

Data Sources

Intrinsic—Based on historical patterns of the data itself from company data

- Product life-cycle management
- Planned price changes
- Changes in the sales force
- Resource constraints
- Marketing and sales promotion
- Advertising

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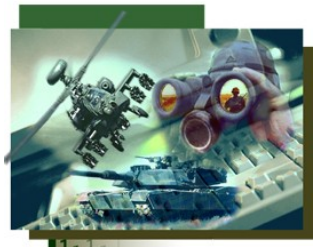

General Methods of Forecasting (Cont'd)

Data Sources

Extrinsic—Based on external patterns from information outside the company

- New customers
- Plans of major customers
- Government policies
- Regulatory concerns
- Economic conditions
- Environmental issues
- Global trends

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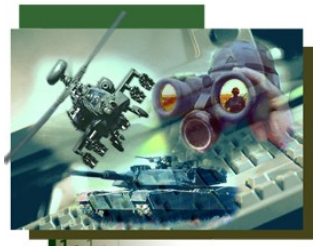

Leading Indicators

Commercial

Indicator	Influences volume of
Housing starts	Building materials
Number of babies	Baby products
Hits on a Web site	e-commerce sales
Health trends	Medical supplies
Healthier lifestyle	Nutritional products
	Fitness products

Military

Indicator	Influences volume of
Natural Disaster	OPTEMPO
Downsizing	New Systems
Budget	Phase-Out
Executive Policy	Executable Dollars
Contingency	Force Structure

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Focus (Best Fit) Forecasting

Assumptions

- The most recent past is the best indicator of the future.
- One forecasting model is better than the others.
- All forecasting models will be compared for all items forecasted against recent history.
- The model that achieves the closest fit will be used to forecast this item this time.
- Next time a different model may be selected

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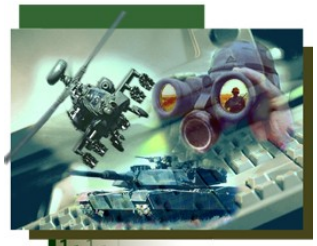

Data Issues for Forecasting

- Availability of data
- Consistency of data
- Amount of history required
- Forecast frequency
- Frequency of model reevaluation
- Cost and time issues
- Recording true demand
- Order date vs. ship date
- Product units vs. financial units
- Level of aggregation
- Customer partnering

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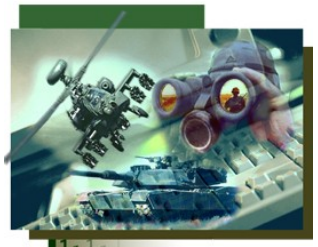

Tracking the Forecast

Forecasts are rarely 100% correct over time.

Why track the forecast?

- To plan around the error in the future.
- To measure actual demand versus forecasts.
- To improve our forecasting methods.
- To recognize bias (cumulative variation not zero) versus
  random variation (cumulative variation equals zero).

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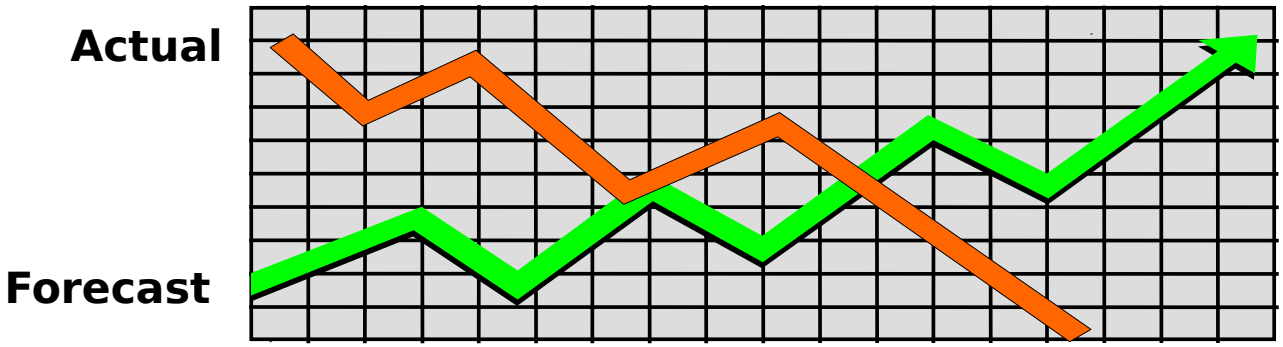
Reasons for Forecast Inaccuracy



- Inappropriate forecasting method
- Lack of participation and accountability
- Too difficult to understand
- Lack of compatibility between system and organization
- Inaccurate data
- Data inappropriate for forecasting
- Lack of monitoring

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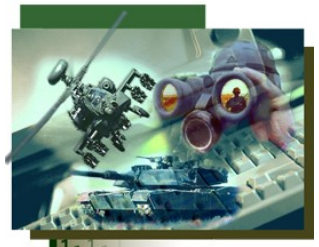

DEMAND PLANNING

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Secondary Item Planning

- SAP provides an Advanced Planning System (APS) called the Advanced Planner and Optimizer (APO).
- APO Demand Planning (APO-DP) addresses demand forecasting.
  - APO-DP is the planning tool for customer demand
  - It has forecasts for all customer demand including:
    - Recurring
    - Promotions (non-recurring)
    - Other Service
    - FMS

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To Be Planning Process Flow

Demand Planning

Unconstrained ($, Material, Capacity)

Budget Supply Planning

Budget Formulation

Constrained ($, Material, Capacity)

Operational Supply Planning

Execution Planning

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Demand Management Key Concepts

- Only independent demand needs to be forecasted.
- All sources of demand must be identified:
  - Customers (Soldier, Foreign Military Sales, Other Services)
  - Spare parts (Repair Programs)
  - Promotions (Provisioning)
  - Intracompany (Destructive Testing)
  - Other (War Reserves)

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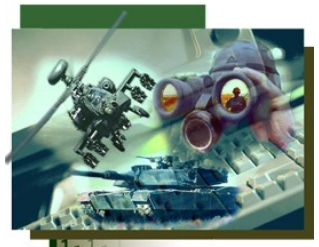
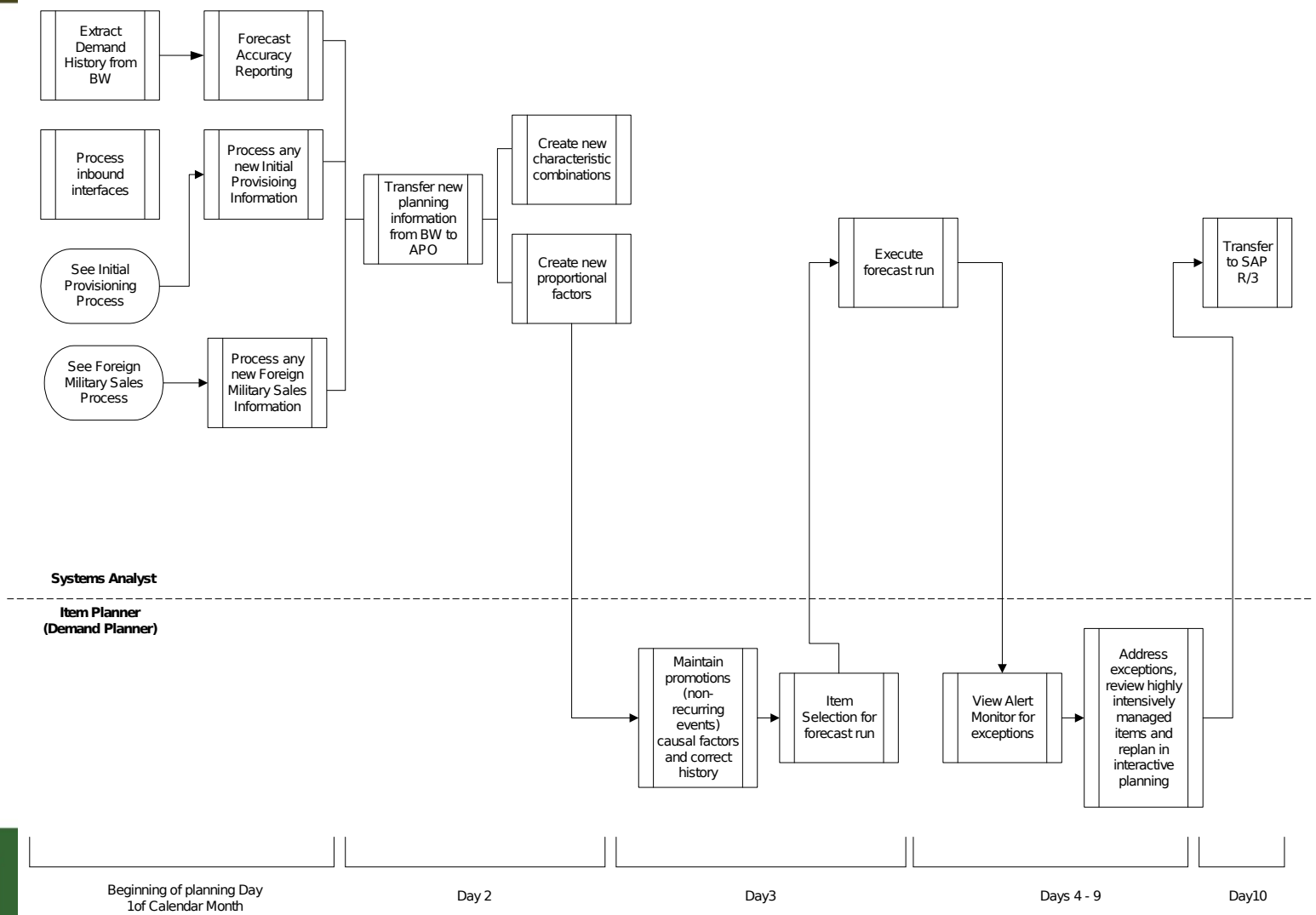


Secondary Item Planning

Secondary Item Planning Process


Extract Demand History from BW
Forecast Accuracy Reporting
Process inbound interfaces
Process any new Initial Provisioing Information
See Initial Provisioning Process
Transfer new planning information from BW to APO
Create new characteristic combinations
Create new proportional factors
See Foreign Military Sales Process
Process any new Foreign Military Sales Information
Execute forecast run
Transfer to SAP R/3
Systems Analyst
Item Planner (Demand Planner)
Maintain promotions (non-recurring events) causal factors and correct history
Item Selection for forecast run
View Alert Monitor for exceptions
Address exceptions, review highly intensively managed items and replan in interactive planning
Beginning of planning Day 1of Calendar Month
Day 2
Day3
Days 4 - 9
Day10

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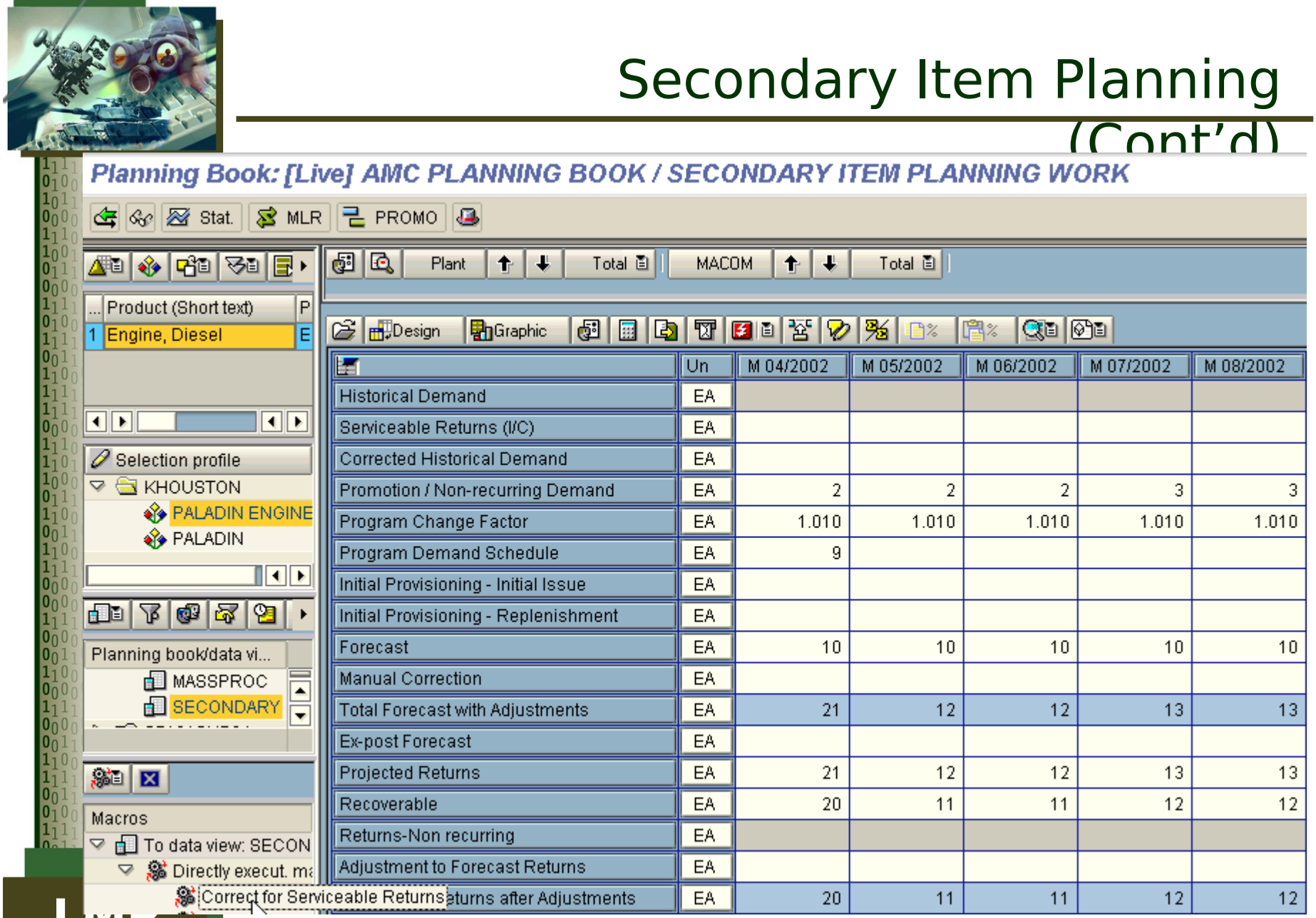
Secondary Item Planning (Cont'd)



	Un	M 04/2002	M 05/2002	M 06/2002	M 07/2002	M 08/2002
Historical Demand	EA					
Serviceable Returns (I/C)	EA					
Corrected Historical Demand	EA					
Promotion / Non-recurring Demand	EA	2	2	2	3	3
Program Change Factor	EA	1.010	1.010	1.010	1.010	1.010
Program Demand Schedule	EA	9				
Initial Provisioning - Initial Issue	EA					
Initial Provisioning - Replenishment	EA					
Forecast	EA	10	10	10	10	10
Manual Correction	EA					
Total Forecast with Adjustments	EA	21	12	12	13	13
Ex-post Forecast	EA					
Projected Returns	EA	21	12	12	13	13
Recoverable	EA	20	11	11	12	12
Returns-Non recurring	EA					
Adjustment to Forecast Returns	EA					
Returns after Adjustments	EA	20	11	11	12	12

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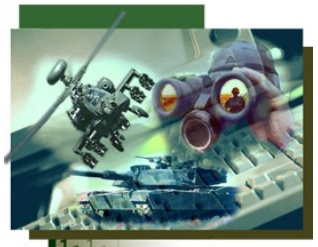
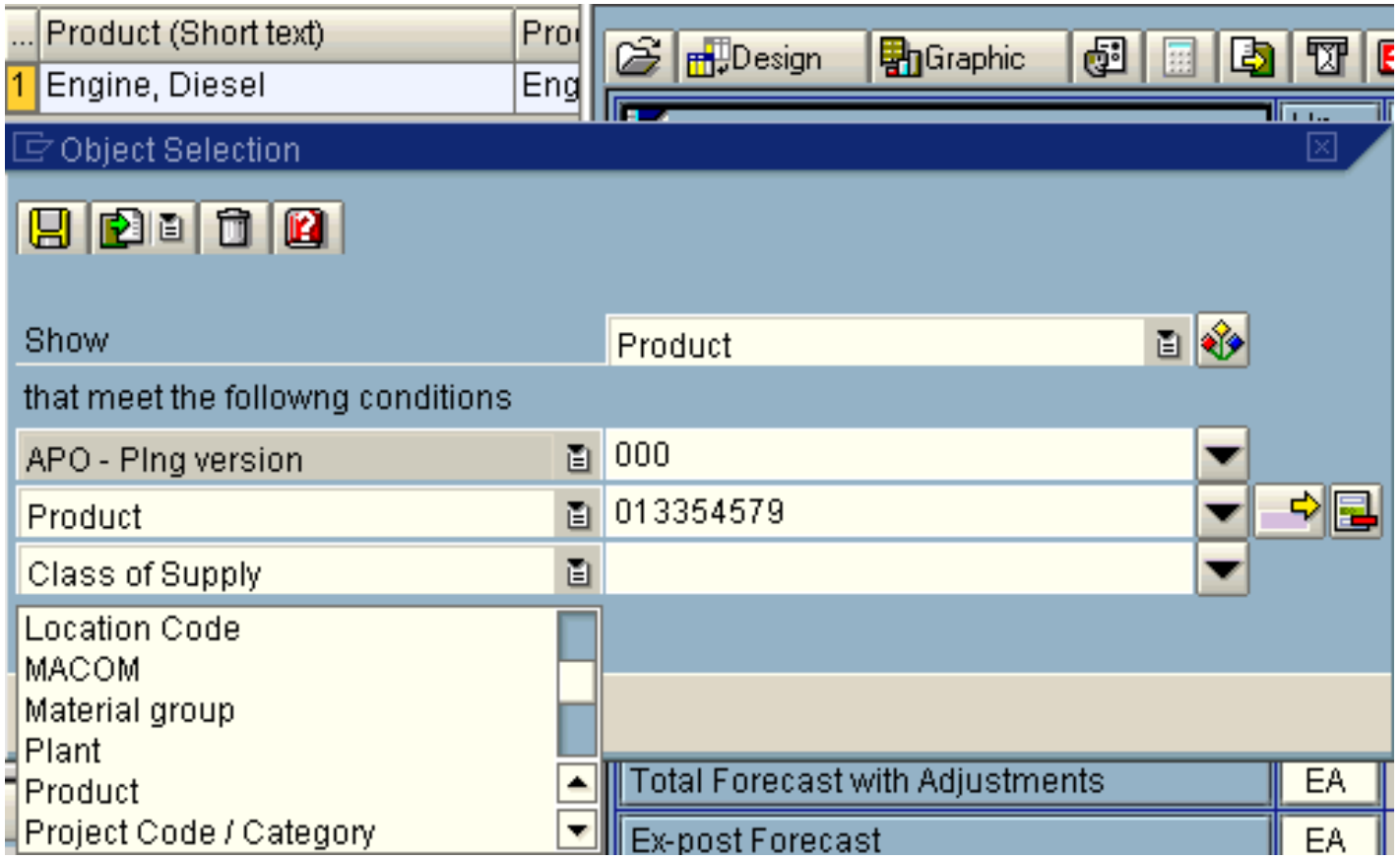


SAP APO Planning Book

Select Planning Objects by



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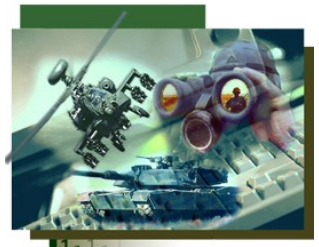
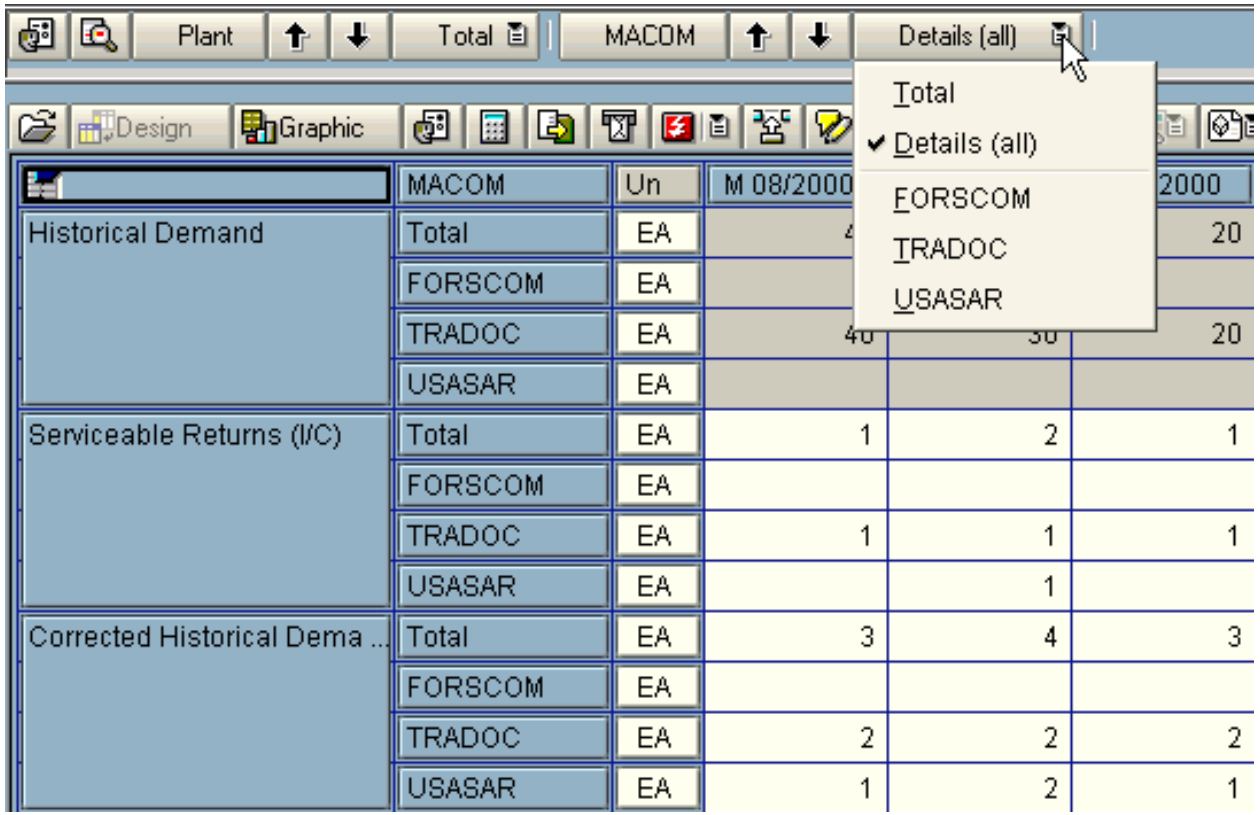


Secondary Item Planning

Drill-down by Characteristic



	MACOM	Un	M 08/2000		2000
Historical Demand	Total	EA			20
	FORSCOM	EA			
	TRADOC	EA	40	30	20
	USASAR	EA			
Serviceable Returns (I/C)	Total	EA	1	2	1
	FORSCOM	EA			
	TRADOC	EA	1	1	1
	USASAR	EA		1	
Corrected Historical Dema ...	Total	EA	3	4	3
	FORSCOM	EA			
	TRADOC	EA	2	2	2
	USASAR	EA	1	2	1

LMP

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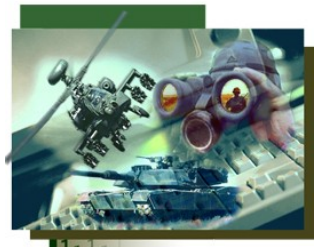

Secondary Item Planning (Cont'd)

Key Figures

Design | Graphic

	Un	M 04/2002	M 05/2002	M 06/2002	M 07/2002
Historical Demand	EA				
Serviceable Returns (I/C)	EA				
Corrected Historical Demand	EA				
Promotion / Non-recurring Demand	EA	2	2	2	3
Program Change Factor	EA	1.010	1.010	1.010	1.010
Program Demand Schedule	EA	9			
Initial Provisioning - Initial Issue	EA				
Initial Provisioning - Replenishment	EA				
Forecast	EA	10	10	10	10
Manual Correction	EA				
Total Forecast with Adjustments	EA	21	12	12	13

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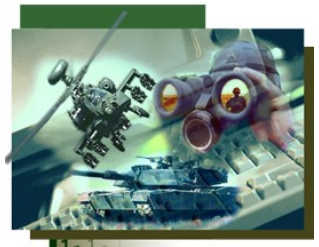
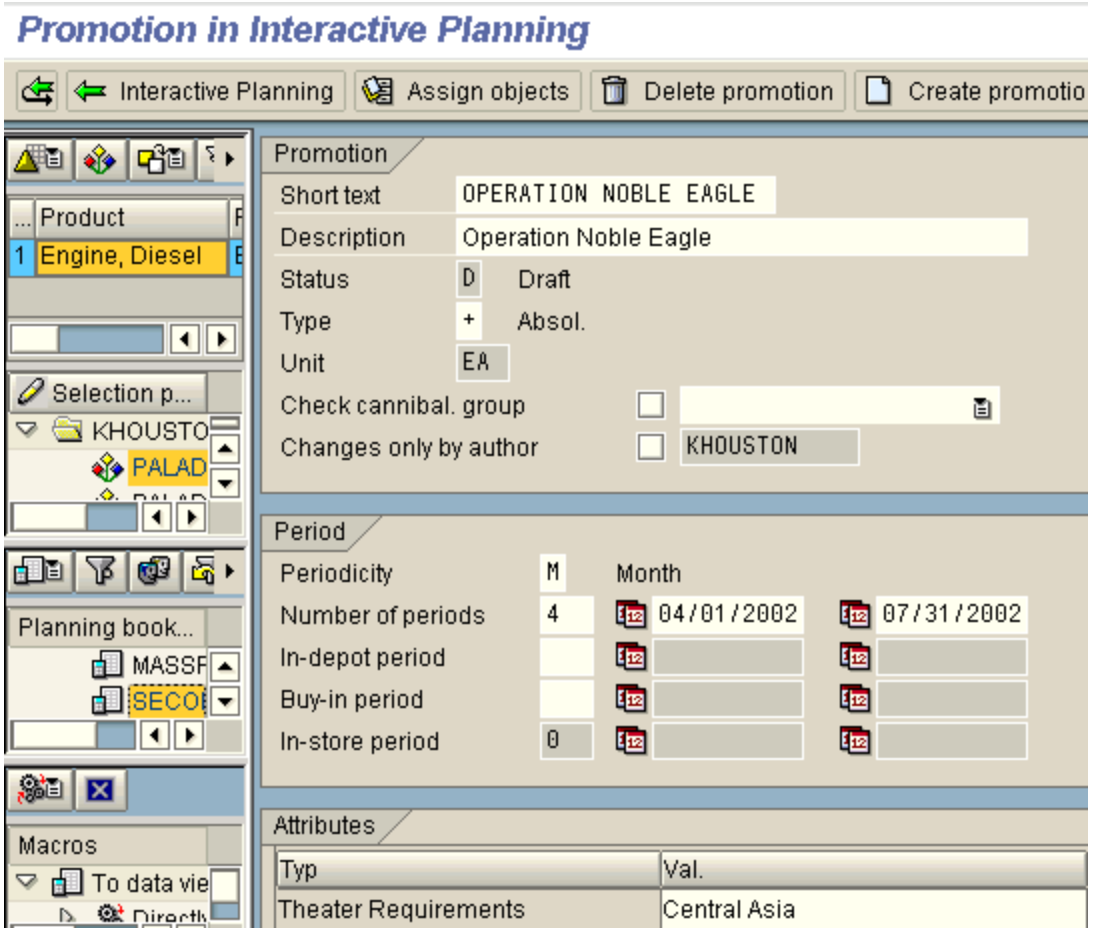


Secondary Item Planning (Cont'd)

Key Figure: Promotion/Non-recurring event



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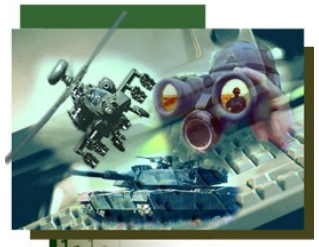

Secondary Item Planning (Cont'd)

Key Figures

	Un	M 04/2002	M 05/2002	M 06/2002	M 07/2002	M 08/2002
Total Forecast with Adjustments	EA	21	12	12	13	13
Ex-post Forecast	EA					
Projected Returns	EA	21	12	12	13	13
Recoverable	EA	20	11	11	12	12
Returns-Non recurring	EA					
Adjustment to Forecast Returns	EA					
Forecasted Returns after Adjustments	EA	20	11	11	12	12
Historical Returns	EA					

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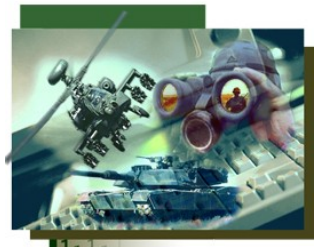

Secondary Item Planning (Cont'd)

Maintaining Planning Rates

Mass Update of Planning Rates

Selection

Product	013354579	to	
Class of Supply		to	
Source of Supply		to	
Demand Planner		to	

Rates to be applied

Maximum Serviceable Rate	10	☑ Update Rate	Update Rates
Return Rate	100	☑ Update Rate	
Recoverable Rate	96	☑ Update Rate	

Update APO Planning Rates

MaxRate	RetRate	RcvRate	←Last Change Detail User	Date & Time
10.00	100.00	96.00	KHOUSTON	04/03/2002 1

LMP

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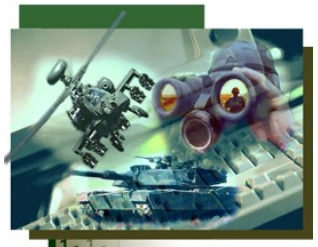

Secondary Item Planning (Cont'd)

Key Figures: Program Change Factor

Calculated based on change of in-use density (and optionally usage) of weapon systems, by major customer area and by MACOM (and government agencies).

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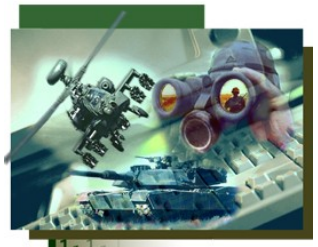

Secondary Item Planning (Cont'd)

Executing a Forecast

- Forecasts are executed in batch, or
- Individually, online

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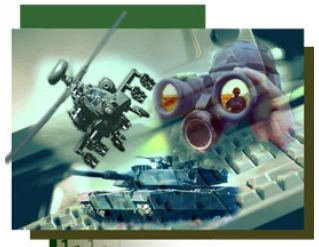
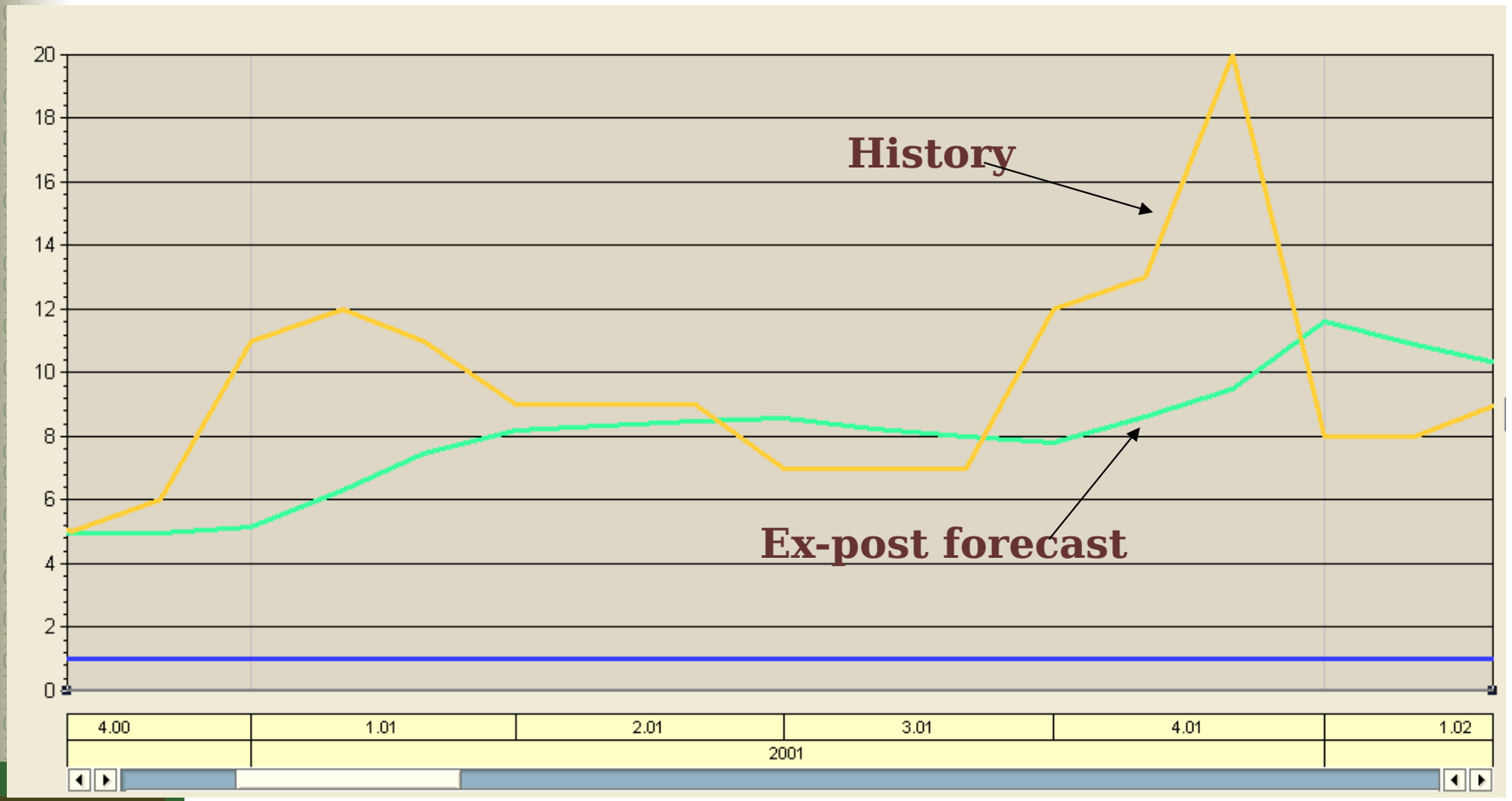


Secondary Item Planning (Cont'd)

Evaluating the results



LMP

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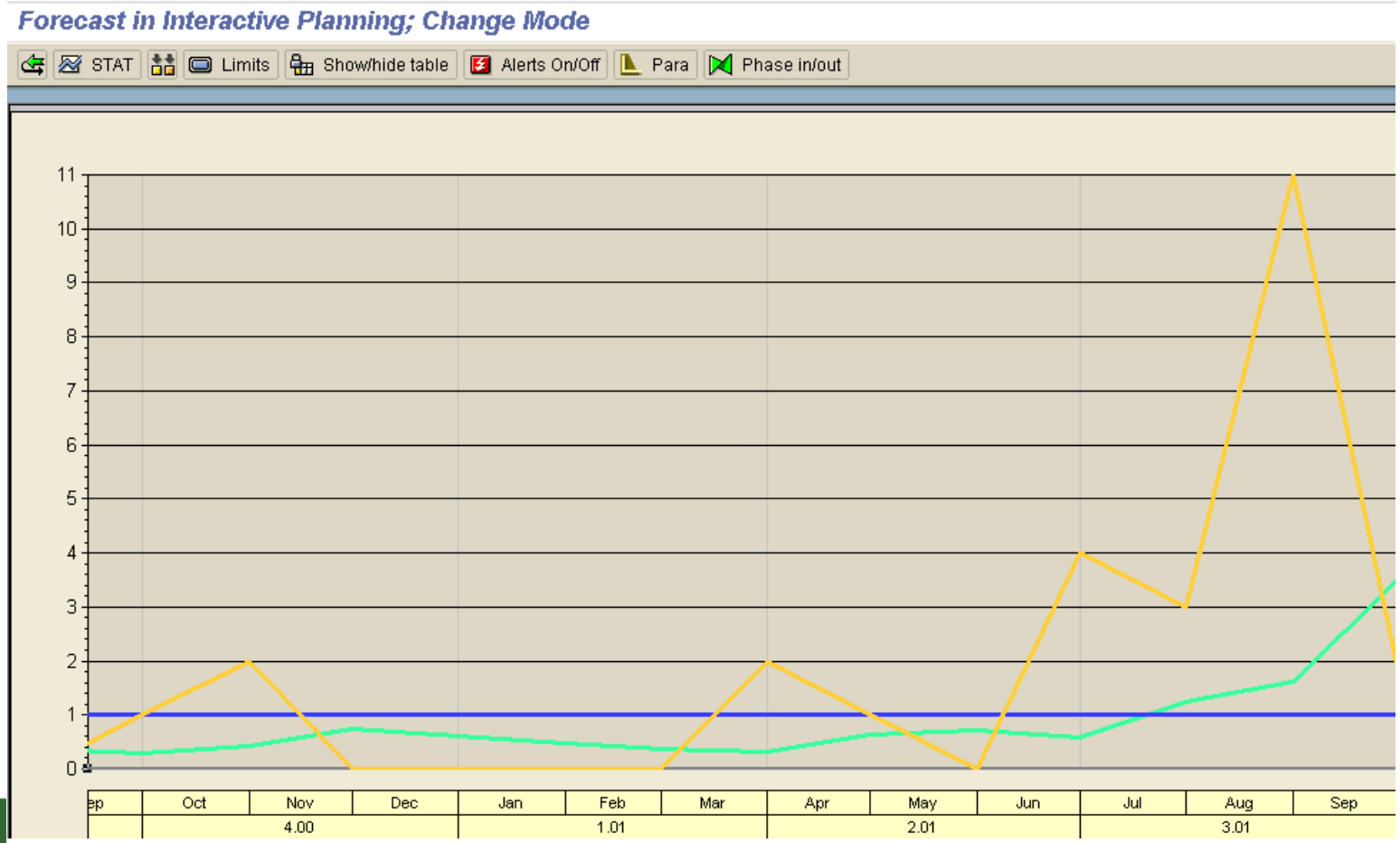
Secondary Item Planning (Cont'd)

Evaluating the results



AMCOM item

LMP

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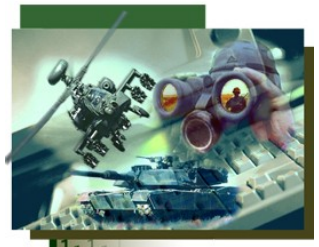
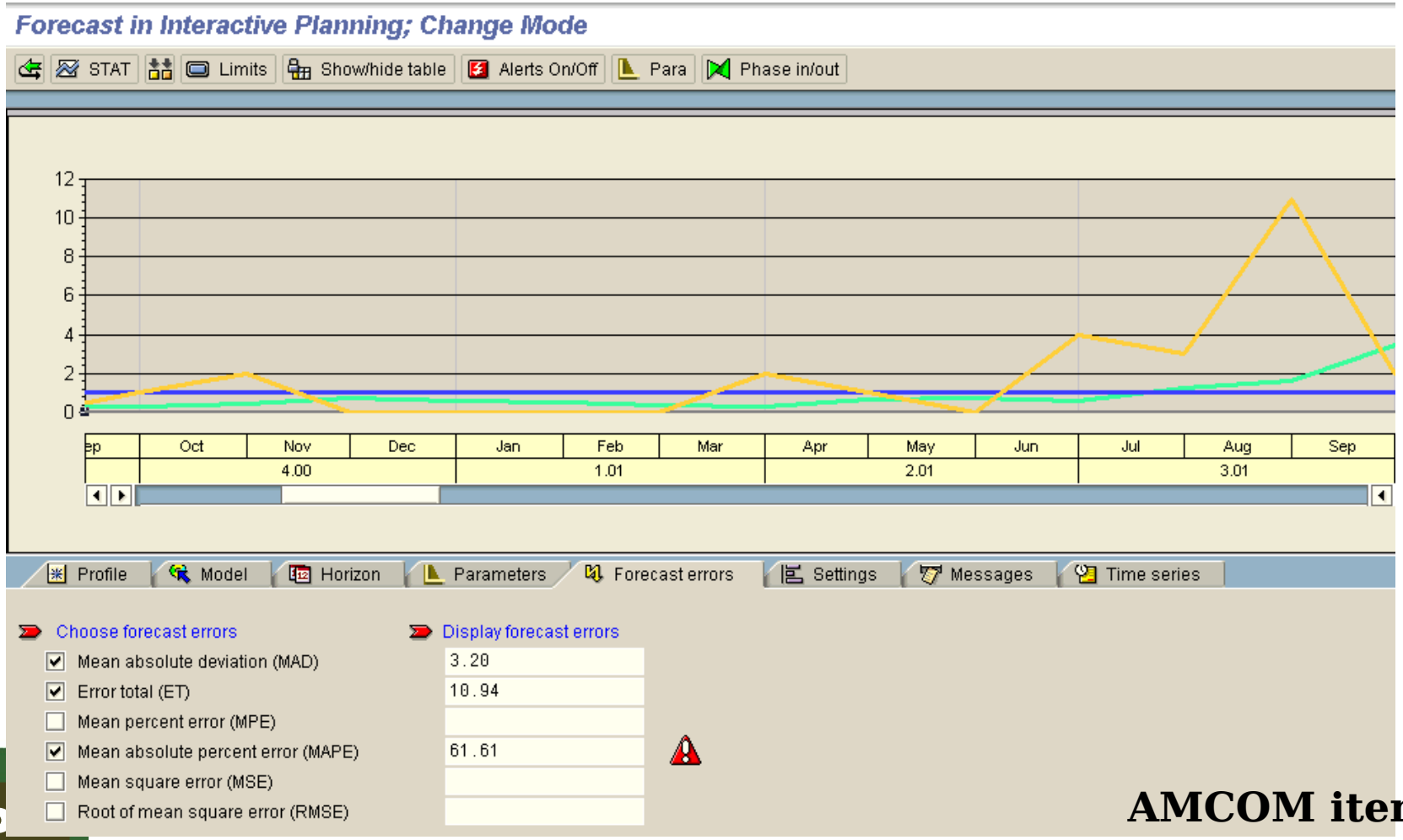


Secondary Item Planning (Cont'd)

Evaluating the results



AMCOM item

LMP

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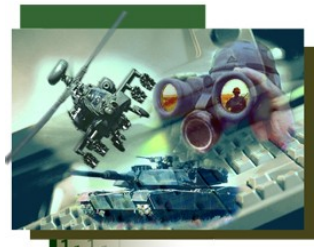
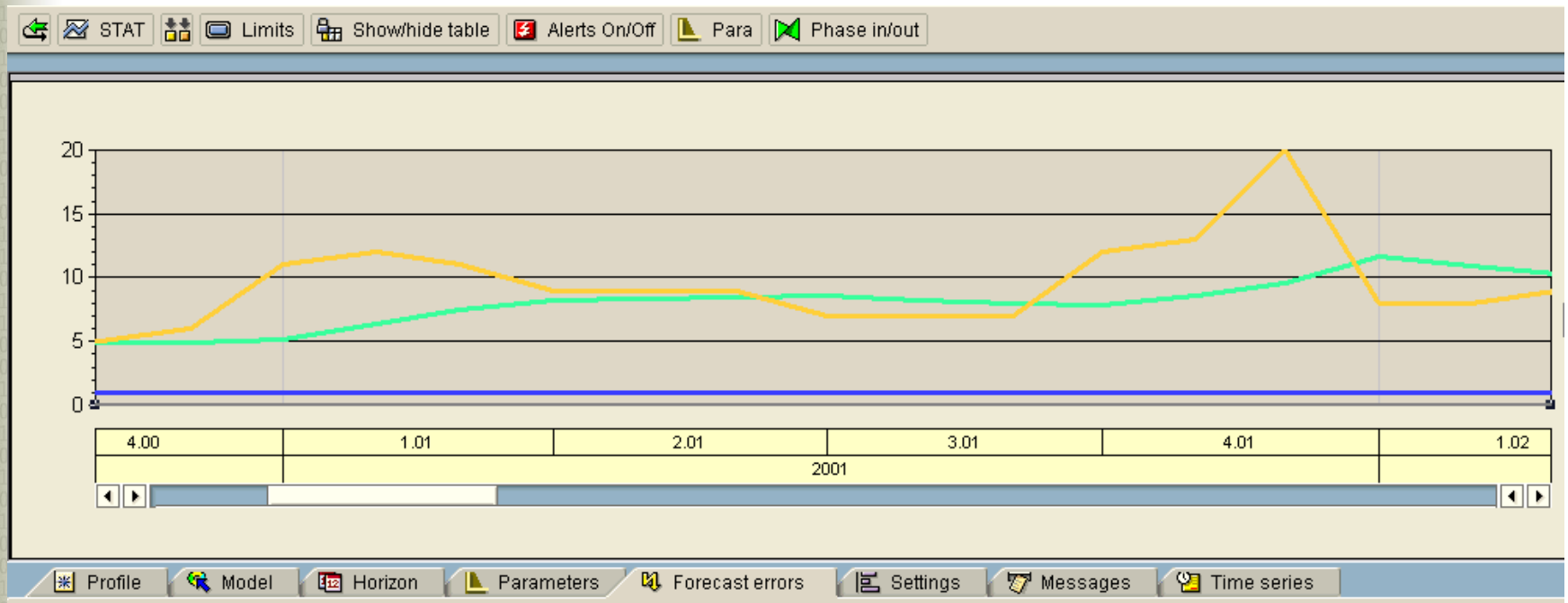


Secondary Item Planning (Cont'd)

Evaluating the results



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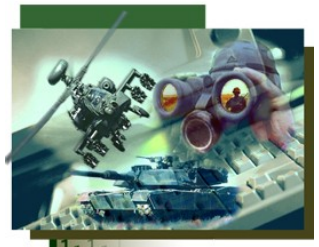
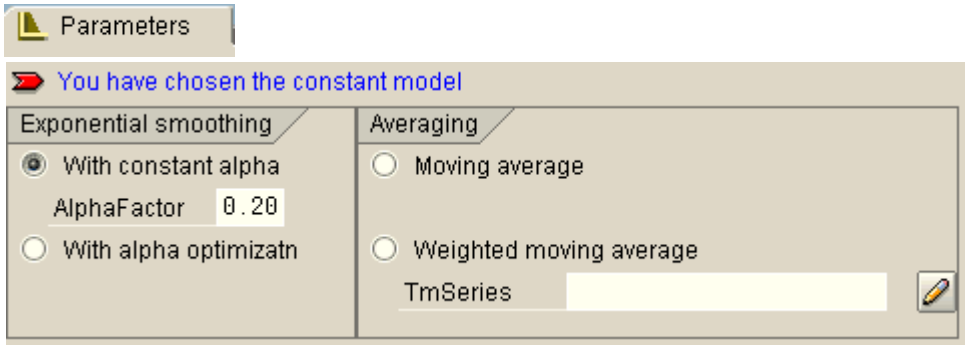


Secondary Item Planning (Cont'd)

Forecast Strategies/Parameters



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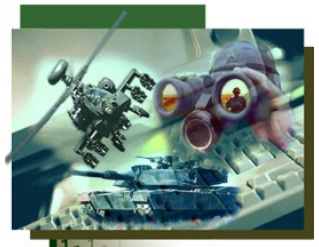

Secondary Item Planning (Cont'd)

Improving the forecast

The Alert Monitor will focus the planner's attention on forecasts that result in unacceptably high measures of forecast error.

(54 Alerts)

Stat	Priorität	Description	Prod. descript.	Plng versn	Planning book	Planning book text	Data view	Key figu...	Profile
	2	MAPE upper limit exceeded	Engine, Diesel	000	LOGBOOK4	AMC PLANNING BOOK	SECONDARY	Z_FCST	Constant
	2	MAD upper limit exceeded	Engine, Diesel	000	LOGBOOK4	AMC PLANNING BOOK	SECONDARY	Z_FCST	Constant
	2	Error total upper limit exceeded	Engine, Diesel	000	LOGBOOK4	AMC PLANNING BOOK	SECONDARY	Z_FCST	Constant

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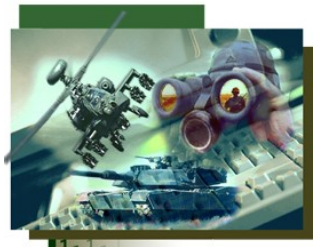

Improving the forecast

To improve the quality of the forecast, the item manager can:

- Maintain promotions (non-recurring demand)
- Change forecast strategies
- Change forecast parameters within a forecast profile
- Change from a univariate statistical forecast approach to an MLR approach
- Change values of key figures in interactive planning

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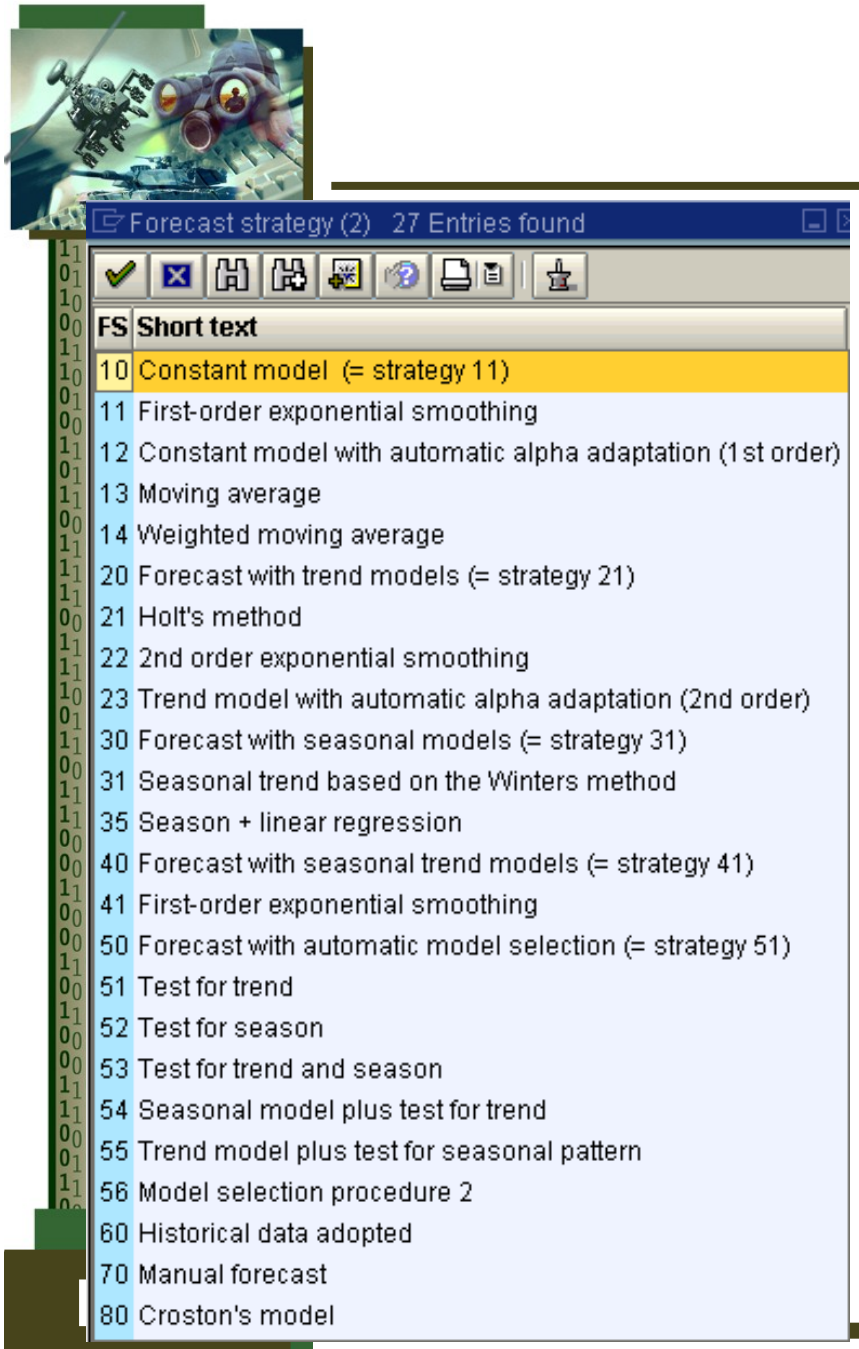
Secondary Item Planning


Forecast strategy (2) 27 Entries found
FS Short text
10 Constant model (= strategy 11)
11 First-order exponential smoothing
12 Constant model with automatic alpha adaptation (1st order)
13 Moving average
14 Weighted moving average
20 Forecast with trend models (= strategy 21)
21 Holt's method
22 2nd order exponential smoothing
23 Trend model with automatic alpha adaptation (2nd order)
30 Forecast with seasonal models (= strategy 31)
31 Seasonal trend based on the Winters method
35 Season + linear regression
40 Forecast with seasonal trend models (= strategy 41)
41 First-order exponential smoothing
50 Forecast with automatic model selection (= strategy 51)
51 Test for trend
52 Test for season
53 Test for trend and season
54 Seasonal model plus test for trend
55 Trend model plus test for seasonal pattern
56 Model selection procedure 2
60 Historical data adopted
70 Manual forecast
80 Croston's model

APO-DP supports 27 forecast strategies and multiple linear regression (MLR)

When the planner asks, “What is driving the demand behavior of this material?” the answer can be used to customize the approach to forecasting.

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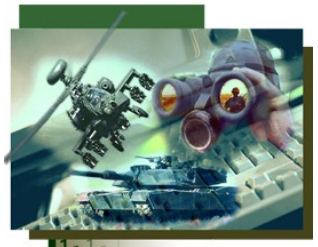

SAP APO Demand Planning

- Army-managed materials will be planned in APO.
- “Army-managed” is determined by ICP-RIC (source of supply) and an overriding indicator.

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SAP APO Demand Planning (Cont'd)

How demand is captured:

- A customer requisition is processed as an SAP sales order. The demand is recorded based on:
  - NSN, quantity, and date required.
  - Customer, project code category, and other planning "characteristics."

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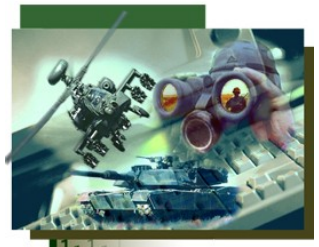

PLANNING

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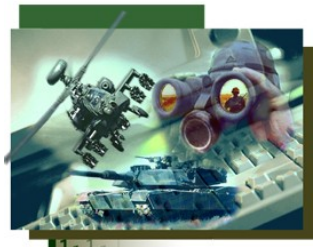

Requirements Planning

MRP is the formalization of the informal system (i.e., a computer-projected shortage report and a proposed solution).

Ammunition		JUN	JUL	AUG	SEP	OCT	NOV
60 MM Cartridge (K units)		30	30	30	30	30	30
On Order from subcontractor				10			
On Hand in stores	80						
Stock Status		50	20	0	-30	-60	-90

"*What do we need to get ... and when*"

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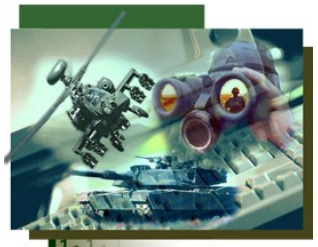
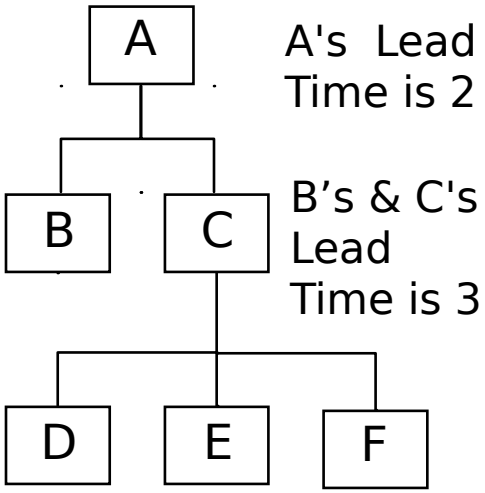


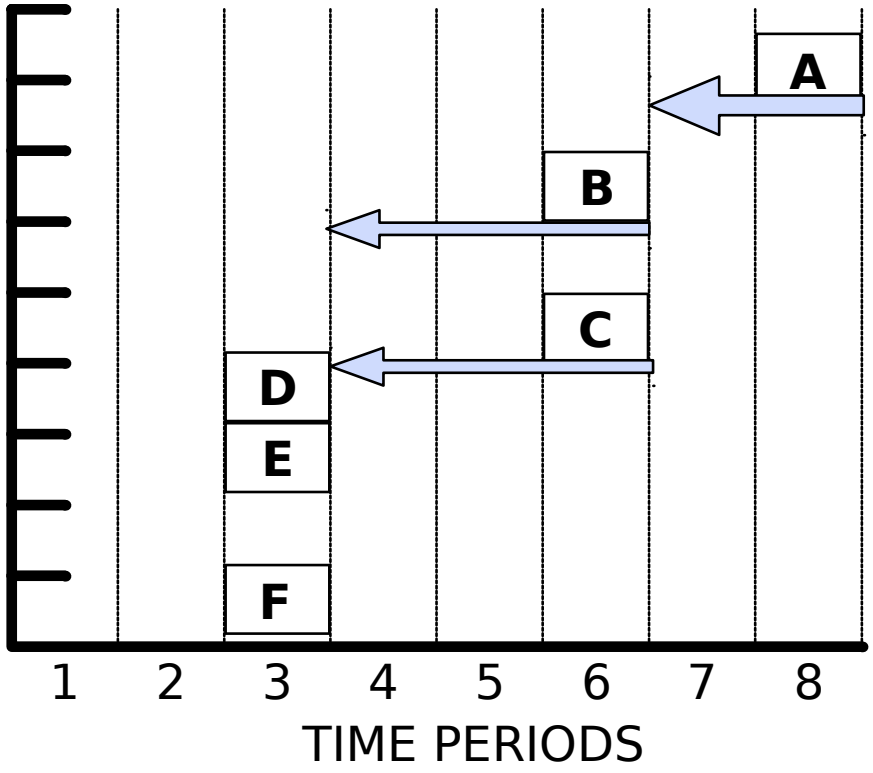
Material Requirements Planning

Time Phasing:

Always looking to the future, MRP time-phases requirements and back schedules by the lead time to determine need dates

Product "A"





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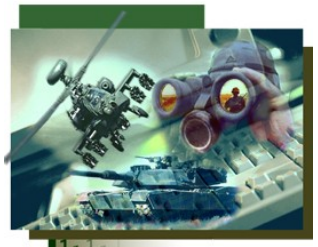

Material Requirements Planning (MRP)

Time-phasing means capturing (or developing) the information on timing so as to provide answers to the following questions.

1. When will the demand actually have to be satisfied?
2. When is the quantity on order due to come in?
3. When will the stock run out?
4. When should the replenishment order be completed?
5. When should the replenishment order be released?

	1	2	3
Gross Requirements	5	5	5
Scheduled Receipts		5	
On Hand Balance 5	0	0	-5
Net Requirements			5
Planned Order Receipt			5
Planned Order Release	5		

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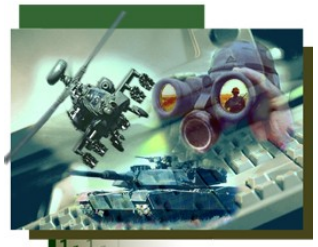

MRP Netting Calculation/ Stock Requirements List

Shortage

Supply (Assets)		Demand (Requirements)
Projects (PRONs)		Sales Orders (Due Out)
Plnd Prod/Refurbish Orders		Planned Ind Reqmts (Forecast)
Production/Refurbish Orders	Compare	
Purchase Requisitions		Dependent Reqmts
Purchase Orders		Reservations
Unserviceable Stock		Safety Stock
Serviceable Stock		
War Reserve Stock		War Reserve Stock

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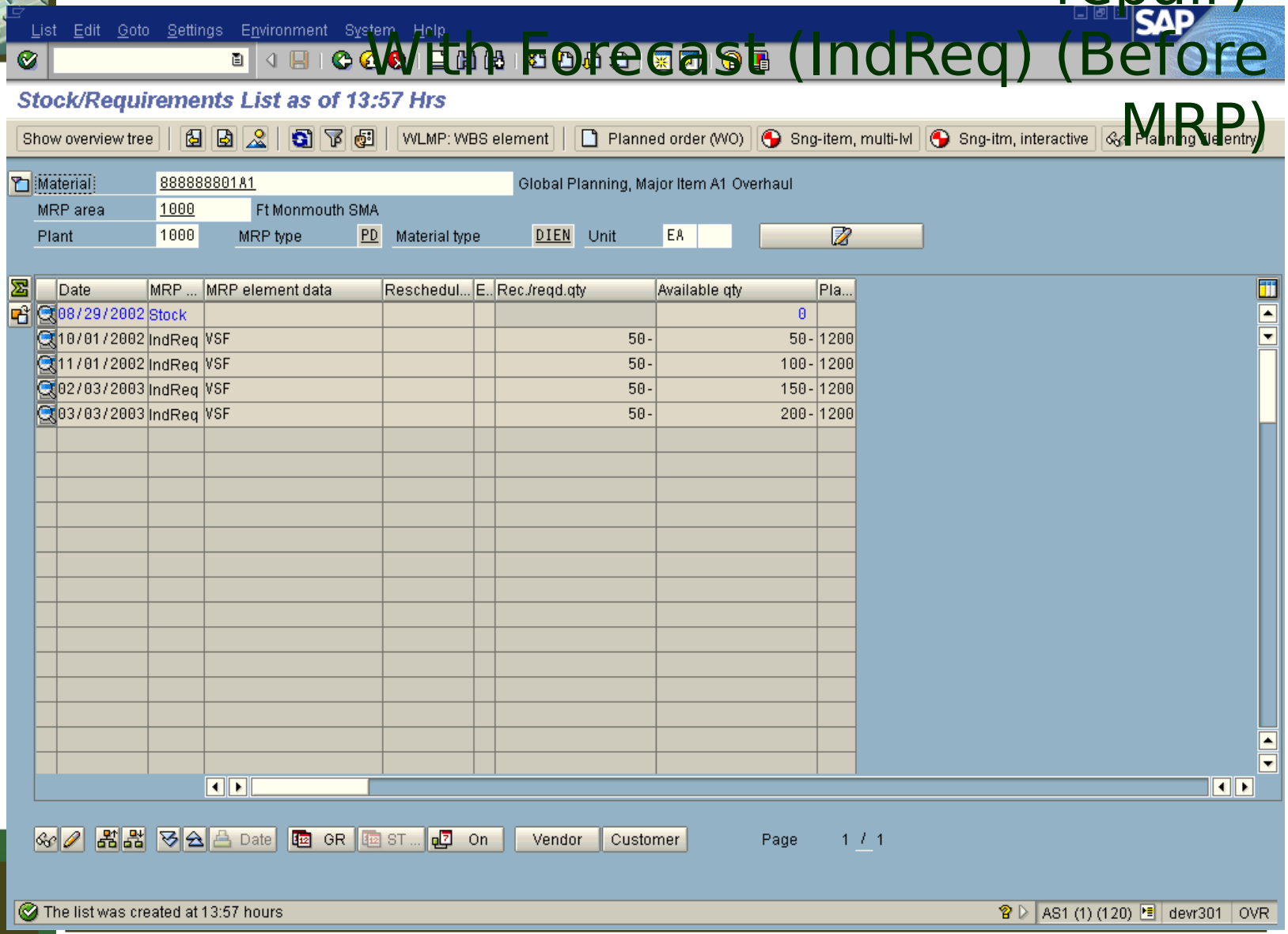
Major Item Service Product (for repair)

With Forecast (IndReq) (Before MRP)


List Edit Goto Settings Environment System Help
SAP
Stock/Requirements List as of 13:57 Hrs
Show overview tree
WLMP: WBS element
Planned order (WO)
Sng-item, multi-lvl
Sng-itm, interactive
Planning file entry
Material 888888801A1
Global Planning, Major Item A1 Overhaul
MRP area 1000 Ft Monmouth SMA
Plant 1000
MRP type PD
Material type DIEN
Unit EA
Date | MRP ... | MRP element data | Reschedul... | E.. | Rec./reqd.qty | Available qty | Pla...
08/29/2002 | Stock | | | | | 0 |
10/01/2002 | IndReq | VSF | | | 50- | 50- | 1200
11/01/2002 | IndReq | VSF | | | 50- | 100- | 1200
02/03/2003 | IndReq | VSF | | | 50- | 150- | 1200
03/03/2003 | IndReq | VSF | | | 50- | 200- | 1200
Date
GR
ST ...
On
Vendor
Customer
Page 1 / 1
The list was created at 13:57 hours
AS1 (1) (120)
devr301
OVR

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Major Item Service Product (for repair) With Forecast (IndReq) (After MRP)

List Edit Goto Settings Environment System Help

SAP

Stock/Requirements List as of 14:06 Hrs

Show overview tree | WLMP: WBS element | Planned order (WO) | Sng-item, multi-lvl | Sng-itm, interactive | Planning file entry

Material 888888801A1 obal Planning, Major Item A1 Overhaul
MRP area 1000 Ft Monmouth SMA
Plant 1000 MRP type PD Material type DIEN Unit EA

Date	MRP ...	MRP element data	Reschedul...	E..	Rec./reqd.qty	Available qty	Pla...
08/29/2002	Stock					0	
10/01/2002	PldOrd	0000014996/STCK		62	50	50	
10/01/2002	IndReq	VSF			50-	0	1200
11/01/2002	PldOrd	0000014997/STCK		62	50	50	
11/01/2002	IndReq	VSF			50-	0	1200
02/03/2003	PldOrd	0000014998/STCK		62	50	50	
02/03/2003	IndReq	VSF			50-	0	1200
03/03/2003	PldOrd	0000014999/STCK		62	50	50	
03/03/2003	IndReq	VSF			50-	0	1200

MRP proposed planned orders (supply) to meet the expected customer demand (forecast)

Date | GR | ST ... | On | Vendor | Customer | Page 1 / 1

AS1 (1) (120) devr301 OVR

LMP

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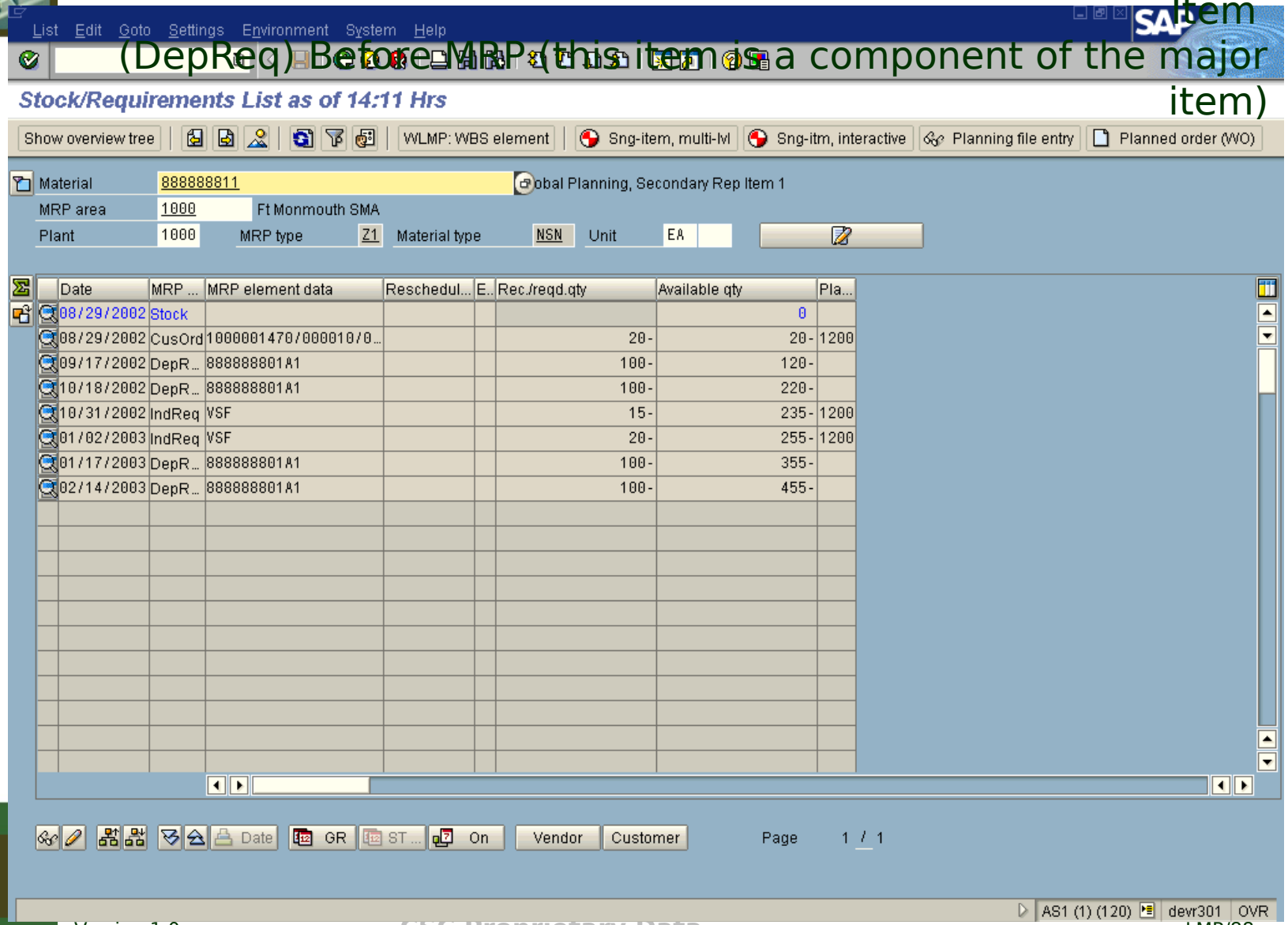
Secondary Reparable Item With Forecast (IndReq), Actual Customer Orders (CusOrd), and Dependent Requirements From the Major Item (DepReq) Before MRP (this item is a component of the major item)


List Edit Goto Settings Environment System Help
Stock/Requirements List as of 14:11 Hrs
Show overview tree
WLMP: WBS element
Sng-item, multi-lvl
Sng-itm, interactive
Planning file entry
Planned order (WO)
Material 888888811
obal Planning, Secondary Rep Item 1
MRP area 1000 Ft Monmouth SMA
Plant 1000 MRP type Z1 Material type NSN Unit EA
Date | MRP ... | MRP element data | Reschedul... | E.. | Rec./reqd.qty | Available qty | Pla...
08/29/2002 | Stock | | | | 0 |
08/29/2002 | CusOrd | 1000001470/000010/0... | | | 20- | 20- | 1200
09/17/2002 | DepR... | 888888801A1 | | | 100- | 120- |
10/18/2002 | DepR... | 888888801A1 | | | 100- | 220- |
10/31/2002 | IndReq | VSF | | | 15- | 235- | 1200
01/02/2003 | IndReq | VSF | | | 20- | 255- | 1200
01/17/2003 | DepR... | 888888801A1 | | | 100- | 355- |
02/14/2003 | DepR... | 888888801A1 | | | 100- | 455- |
Date GR ST ... On Vendor Customer
Page 1 / 1
AS1 (1) (120) devr301 OVR

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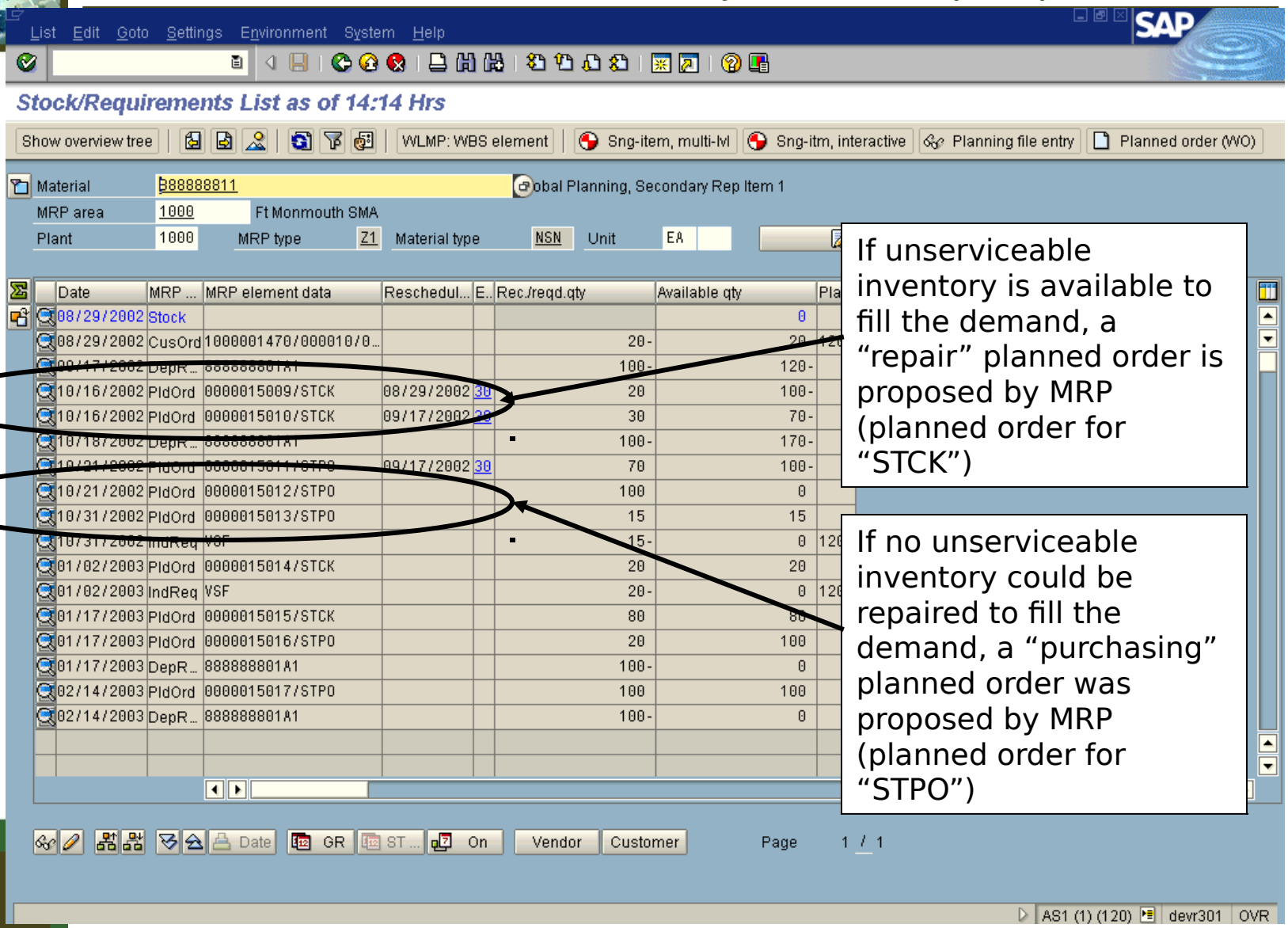
Secondary Reparable Item With Forecast (IndReq), Actual Customer Orders (CusOrd), and Dependent Requirements From the Major Item (DepReq), After MRP


List Edit Goto Settings Environment System Help
SAP
Stock/Requirements List as of 14:14 Hrs
Show overview tree
WLMP: WBS element
Sng-item, multi-lvl
Sng-itm, interactive
Planning file entry
Planned order (WO)
Material 888888811
obal Planning, Secondary Rep Item 1
MRP area 1000 Ft Monmouth SMA
Plant 1000 MRP type Z1 Material type NSN Unit EA
Date | MRP ... | MRP element data | Reschedul... | E.. | Rec./reqd.qty | Available qty
08/29/2002 Stock 0
08/29/2002 CusOrd 1000001470/000010/0... 20- 20
10/16/2002 PldOrd 0000015009/STCK 08/29/2002 30 20 100-
10/16/2002 PldOrd 0000015010/STCK 09/17/2002 30 30 70-
10/21/2002 PldOrd 0000015012/STPO 100 0
10/31/2002 PldOrd 0000015013/STPO 15 15
01/02/2003 PldOrd 0000015014/STCK 20 20
01/02/2003 IndReq VSF 20- 0
01/17/2003 PldOrd 0000015015/STCK 80 80
01/17/2003 PldOrd 0000015016/STPO 20 100
01/17/2003 DepR... 888888801A1 100- 0
02/14/2003 PldOrd 0000015017/STPO 100 100
02/14/2003 DepR... 888888801A1 100- 0
Date GR ST ... On Vendor Customer
Page 1 / 1
AS1 (1) (120) devr301 OVR

If unserviceable inventory is available to fill the demand, a “repair” planned order is proposed by MRP (planned order for “STCK”)

If no unserviceable inventory could be repaired to fill the demand, a “purchasing” planned order was proposed by MRP (planned order for “STPO”)

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AMC Process Flow

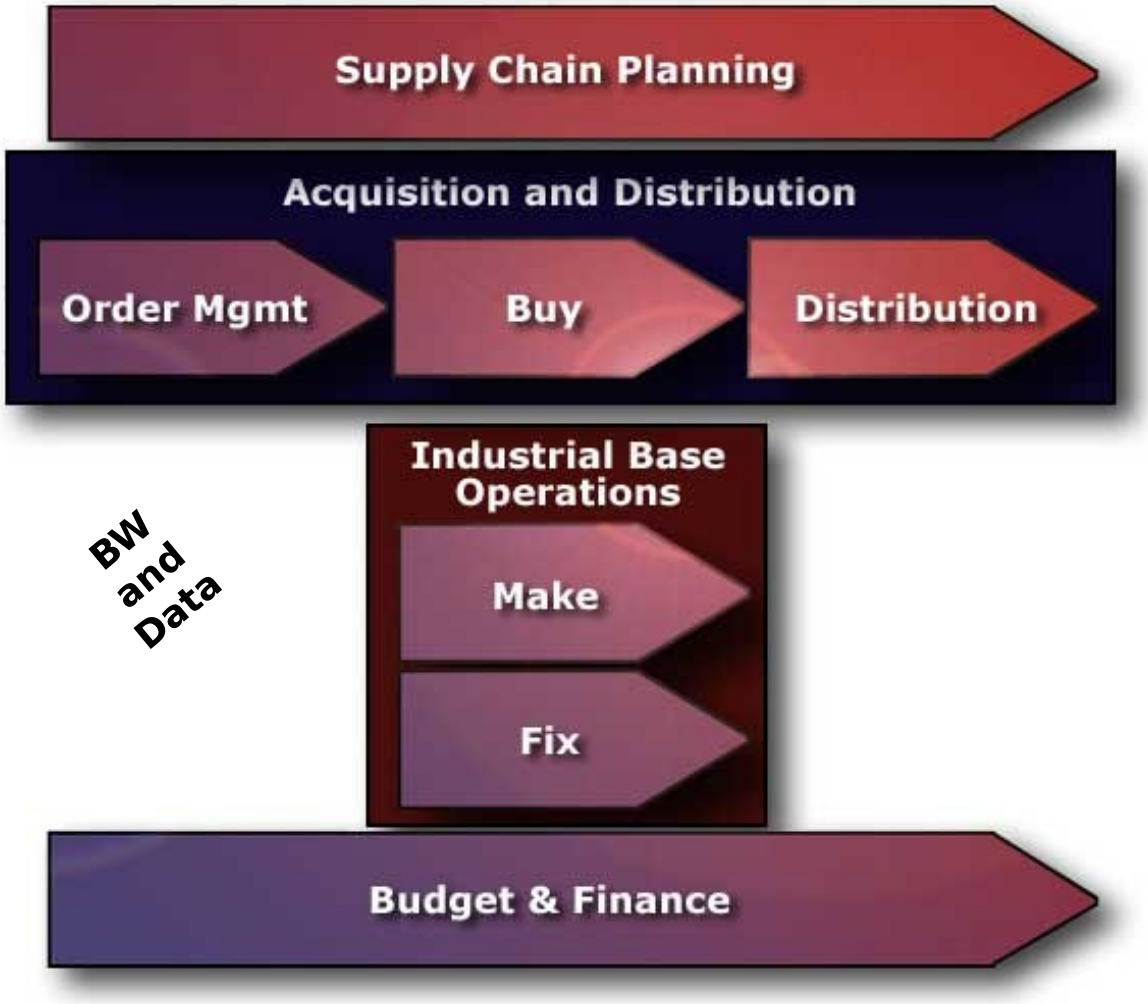
Suppliers

Commercial Contractors

Army Industrial Base
- Depots
- Arsenals

Other DOD
- DLA

Customer Returns



Customers
Army

Army Reserves National Guard

Other DOD
- AF
- Navy
- Marines
- DLA

Other Government
- Federal
- State
- Local

Foreign Armed Services

Private

LMP

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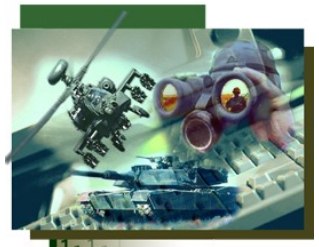

AMC Process Flow (Cont'd)

Supply Chain Planning

- Demand Plan for Major & Ammo Items
- Demand Plan for Secondary Items
- Develop Supply Plan
- Develop Deployment Plan

Acquisition and Distribution

Order Mgmt → Buy → Distribution

- Internal Technical Service Orders
- External Orders (non-AMC)
- Major & Secondary Item Mfg Orders
- Munitions Mfg Orders
- Army Major & Secondary Item Overhaul Orders
- Non-Army Major & Secondary Overhaul Orders – exception only
- Munitions Overhaul Orders

- One common distribution process

Industrial Base Operations

Make

Fix

- Foreign Military
- Overhaul Orders
- Major & Secondary Items

- Munitions
- Technical Services

Budget & Finance

- Budget Formulation
- POM Formulation
- Budget Stratification
- Budget Execution

LMP

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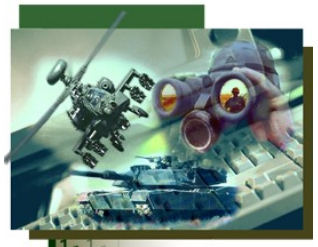

Review Summary

1. The SAP/LMP Solution
2. Some Things You Need To Know Before We Begin
3. Forecasting/Demand Planning
4. Supply Planning
5. Supply Execution

LMP

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Review Course Objectives

- ✓ Provided a knowledge of the fundamentals of planning, forecasting, and the LMP solution.
- ✓ Prepared for the transition from awareness to preparation, concepts and terms, and detailed training.
- ✓ Provided a basis for future SAP Training.
- ✓ Began to provide a level of comfort with LMP solution.

LMP

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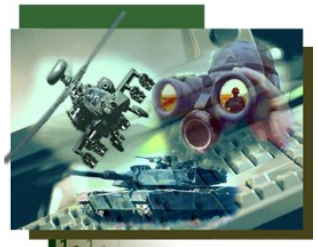

Thank You!

LMP Forecasting and Planning Course

Presented by Team CSC

LMP

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